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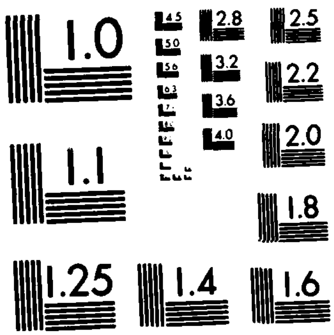
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US Army Corps of Engineers

AD-A145 404

BIBLIOGRAPHY OF PUBLICATIONS PRIOR TO JULY 1983 OF THE COASTAL ENGINEERING RESEARCH CENTER AND THE BEACH EROSION BOARD

by

Andre Szuwalski and Stephen Wagner

Coastal Engineering Research Center
U. S. Army Engineer Waterways Experiment Station
P. O. Box 631, Vicksburg, Miss. 39180

March 1984

Final Report

Prepared for Office, Chief of Engineers, U. S. Army
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20. ABSTRACT (*Continue on reverse side if necessary and identify by block number*) This bibliography supersedes the Bibliography of Publications of the Coastal Engineering Research Center and the Beach Erosion Board by Andre Szuwalski and Linda Clark, dated December 1981. It is a listing of publications issued by the Coastal Engineering Research Center (CERC) and its predecessor, the Beach Erosion Board, before 1 July 1983, when CERC became part of the U. S. Army Engineer Waterways Experiment Station. All CERC publications issued after that date are listed in the List of Publications of the U. S. Army Engineer Waterways Experiment Station.		

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PREFACE

This bibliography covers literature published through 30 June 1983 by the Coastal Engineering Research Center (CERC) and by the Beach Erosion Board (BEB), predecessor to CERC.

Publications issued by CERC (from 1963) are listed with annotations accompanying each bibliographic entry. Indexes of authors and keywords are also included. Publications issued before 1963 by the BEB are listed without annotations (annotations for the BEB reports can be found in CERC's Miscellaneous Paper No. 1-68, entitled Annotated Bibliography of BEB and CERC Publications). CERC publications issued after 1 July 1983, when CERC became part of the U. S. Army Engineer Waterways Experiment Station (WES), can be found in the List of Publications of the U. S. Army Engineer Waterways Experiment Station, Volume 11, Revisions, published in February 1984 and semiannually thereafter.

This bibliography was compiled and annotated by Andre Szuwalski and Stephen Wagner of the Coastal Engineering Information and Analysis Center (CEIAC), under the general supervision of Dr. Robert W. Whalin, Chief, CERC.

Commander and Director of WES upon publiation of this bibliography was COL Tilford C. Creel, CE; Technical Director was Mr. F. R. Brown.

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BIBLIOGRAPHY OF PUBLICATIONS PRIOR TO JULY 1983 OF THE
COASTAL ENGINEERING RESEARCH CENTER AND
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by
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I. INTRODUCTION

This bibliography includes a listing of publications issued by the Coastal Engineering Research Center (CERC) through 30 June 1983 and the Beach Erosion Board (BEB), predecessor to CERC. Publications issued by CERC (from 1963) are listed with annotations accompanying each bibliographic entry. Publications issued before 1963 by the BEB are listed without annotations. Annotations for the BEB reports can be found in CERC's Miscellaneous Paper No. 1-68, titled Annotated Bibliography of BEB and CERC Publications. CERC publications issued after 1 July 1983, when CERC became part of the U. S. Army Engineer Waterways Experiment Station, (WES), can be found in the List of Publications of the U. S. Army Engineer Waterways Experiment Station, Volume II, Revisions, to be published in February 1984 and semiannually thereafter. The publications issued before 1 July 1983 by CERC are briefly identified as follows:

Shore Protection Manual (SPM)--a three-volume manual covering guidelines and techniques for functional and structural design of shore protection works.

Technical Reports (TR)--reports of major significance, containing results of (1) research and development efforts having significant value or (2) major engineering studies.

Miscellaneous Reports (MR) and Technical Papers (TP)--reports of lesser significance or lesser scope than a Technical Report. These types of reports will hereafter be issued as WES Miscellaneous Papers (MP).

Coastal Engineering Technical Aids (CETA)--reports giving (solely) methods, techniques, or guidelines directly usable by Corps of Engineers field offices for direct application to project planning or design. These are basically design manuals which give methods, not background information. The material in the CETA may be completely new, or may have formed a part of, or be excerpted from another publication. This series, which began in 1976, was originally designated as Coastal Design Memorandums (CDM). CETA's will hereafter be issued as WES MP's.

Special Reports (SR)--reports of such lasting value or wide public interest as to warrant publication by the Government Printing Office (GPO) as a salable document. Special Reports that are not sold through GPO are available at the National Technical Information Service (NTIS).

General Investigation of Tidal Inlets (GITI)--a special series of

reports published jointly by CERC and the U.S. Army Engineer Waterways Experiment Station (WES) reporting on a major study concerning tidal inlets.

Reprints (R)--those reports published by CERC personnel in professional journals or magazines selected for wider distribution.

CERCular--a quarterly information bulletin which provides information on CERC's progress in coastal engineering research and includes a listing of the latest CERC publications. The CERCular is not listed in this bibliography.

CERC formerly issued two series of publications designated as Technical Memorandums (TM) and Miscellaneous Papers (MP) which covered general subjects on research and development. Both series were discontinued in December 1975.

CERC also formerly issued a Bulletin and Summary of Research Progress series. Four volumes of the series were published; Volume IV (1970-71) was the last volume issued. Information on CERC's research progress is now included in the quarterly CERCular. The Bulletin series is not listed in this bibliography.

II. BIBLIOGRAPHY FORMAT

All CERC publications presented in this bibliography are in the following format:

SAMPLE

(1) (2)
MR 76-1..A022 653

(3)
SHERK, J.A., Jr., O'CONNOR, J.M., and NEUMANN, D.A., "Effects of Suspended Solids on Selected Estuarine Plankton," Jan. 1976.

(4)
Keywords: *Biological components, Dredge spoil, Estuarine plankton, Sediments, Suspended sediments*

(5)
A 3-year laboratory study identified biological components of selected populations of estuarine organisms most sensitive to the effects of different suspended sediments.

1. Report Series/Number. This is a CERC identification designation giving the type and number of the report.

2. Accession Number. This number is assigned by the Defense Technical Information Center (DTIC) and must be used when ordering CERC publications from the National Technical Information Service (NTIS).

3. Author/Title/Date. Include authors(s), title, and date of publication.

4. Keywords. Selected descriptors identifying topics discussed in or relevant to the report.

5. Annotation. A brief description of the content of the report.

An author index (App. A) and a subject index (App. B) based on the selected keywords assigned to each publication are included to aid users of this bibliography. A complete list of keywords is in Appendix C.

III. DISTRIBUTION OF PUBLICATIONS

Publications of the Coastal Engineering Research Center are distributed primarily to Department of Defense and certain other Federal agencies, State agencies, and universities and colleges having an interest in the work reported. Copies remaining after the initial distribution are furnished without charge on request until CERC's supply of the particular report is exhausted. Requests for publications, or requests to be placed on the mailing list to receive the quarterly CERCular bulletin, should be addressed to:

Commander and Director
U.S. Army Engineer Waterways Experiment Station
Report Distribution Section
P. O. Box 631
Vicksburg, MS 39180

IV. PURCHASE OF PUBLICATIONS

Publications which are no longer available at WES can be purchased from:

National Technical Information Service (NTIS)
ATTN: Operations Division
5285 Port Royal Road
Springfield, Virginia 22161
(703) 557-4650

Costs of hard copies or microfiche copies of CERC reports are available from NTIS on request. When ordering from NTIS always refer to the accession number. The Shore Protection Manual (p. 1-8) and most of the Special Reports (p. 6-1) can be purchased from:

Superintendent of Documents
U.S. Government Printing Office (GPO)
North Capitol and H Streets, NW.
Washington, D.C. 20401
(202) 783-3238

When ordering from GPO use the stock number of the publication.

V. LIBRARY LOAN

Library copies of all CERC publications and any other engineering literature on file in WES's library are available to Department of Defense agencies on loan. The Library Branch's loan privilege is also extended to other Federal and State agencies, scientific and educational institutions, and

established engineering or industrial firms. In such cases, the loan period is usually limited to 30 days. Individuals not connected with the Department of Defense can usually arrange for library loan either through the main offices of their business concerns or through the interlibrary loan services of their local libraries. Lending to persons outside the continental limits of the United States is not encouraged because of the extended time periods involved and risk of loss in transit. Loan requests should be addressed to:

Commander and Director
U.S. Army Engineer Waterways Experiment Station
Technical Information Center
Library Branch
P. O. Box 631
Vicksburg, MS 39180
(601) 634-2542

VI. ANNOTATED CERC BIBLIOGRAPHY

1. SHORE PROTECTION MANUAL

SPM...GPO Stock No. 008-022-00113-1

U.S. ARMY, CORPS OF ENGINEERS, COASTAL ENGINEERING RESEARCH CENTER, "Shore Protection Manual," 1977.

Keywords: *Coastal engineering*

This Shore Protection Manual (SPM), published in three volumes, was written and edited by the staff of the Coastal Engineering Research Center. It is a comprehensive manual written for engineers concerned with designing jetties, seawalls, bulkheads, revetments, and groins for protection of beaches and coastal harbors from the interaction of waves, winds, tides, and currents.

NOTE: Current stocks are depleted; a revised edition of the SPM is scheduled for publication in the summer of 1984.

TR 76-1..A023 191
HANDS, E.B., "Observations of Barred Coastal Profiles Under the Influence of Rising Water Levels, Eastern Lake Michigan, 1967-71," Jan. 1976.

Keywords: *Lake levels; Lake Michigan; Longshore bars; Pentwater Harbor, Michigan; Profiles*

Descriptions of lakeshore bathymetry and its temporal variation over a 4-year period are based on 125 shore-normal profiles from 35 stations and aerial photos covering 50 kilometers of shore near Pentwater Harbor on the eastern shore of Lake Michigan.

TR 76-2..A030 423
WOODHOUSE, W.W., Jr., SENECA, E.D., and BROOME, S.W., "Propagation and Use of Spartina alterniflora for Shoreline Erosion Abatement," Aug. 1976.

Keywords: *Bogue Sound, NC; Transplanting; Vegetation*

This report contains the results of experiments in the use of marsh vegetation to protect eroding shorelines, a laboratory study on mineral nutrition of *Spartina alterniflora,* and an additional year of monitoring several trials previously described by these authors.

TR 76-3..Vol. I---A034 763
WANSTRATH, J.J., et al., "Theory and Application," *Storm Surge Simulation in Transformed Coordinates*, Nov. 1976.

Vol. II---A034 651
WANSTRATH, J.J., "Program Documentation," *Storm Surge Simulation in Transformed Coordinates*, Nov. 1976.

Keywords: *Hurricanes; Mathematical models; Storm surge*

Report discusses a two-dimensional time-dependent numerical storm surge model using orthogonal curvilinear coordinates. Model is used in simulating storm surge induced by selected hurricanes.

TR 77-1..A037 904
THOMPSON, E.F., "Wave Climate at Selected Locations Along U.S. Coasts," Jan. 1977.

Keywords: *Atlantic coast; Gages, wave; Gulf coast, Pacific coast, Wave climatology*

Report summarizes significant heights and periods for 19 wave gage locations and provides data on ranges and annual and seasonal variations of wave climate. Staff and pressure-sensitive gages, generally shore-based, were used to obtain the data.

TR 78-1...A063 935
THOMPSON, E.F., "An Evaluation of Two Great Lakes Wave Models," Oct. 1978.

Keywords: *Hindcasting; Mathematical models; Wave climatology*

Two operational numerical Great Lakes wave models are described in detail and evaluated. Evaluation of one model developed by the U.S. Army Engineer Waterways Experiment Station (WES) compared wave hindcasts for nine storms in Lake Erie during fall 1975; evaluation of other model developed by Techniques Development Laboratory (TDL), National Weather Service, compared forecasts during fall 1975 and fall 1976 in Lake Erie and Lake Michigan.

TR 79-1...A076 307
MATTIE, M.G., and HARRIS, D.L., "A System for Using Radar to Record Wave Direction," Sept. 1979.

Keywords: *Aerial photography; Radar*

Report describes a radar system that provides images of waves in the coastal zone to obtain wave direction information. Data obtained from radar images are compared with similar data obtained from aerial photos and other observational techniques.

TR 80-1...A089 603
SEELIG, W.N., "Two-Dimensional Tests of Wave Transmission and Reflection Characteristics of Laboratory Breakwaters," June 1980.

Keywords: *Breakwaters; Mathematical models; Reflection, wave; Transmission, wave*

Monochromatic and irregular wave transmission and reflection measurements were made for various subaerial and submerged breakwater cross sections. These two-dimensional laboratory tests included smooth impermeable breakwaters, rubble-mound breakwaters, and breakwaters armored with dolos units. A method of estimating transmission by overtopping coefficients is also presented. Suggested procedures for estimating transmission coefficients have been incorporated into the computer programs OVER and MADSEN (included as appendixes); these programs may be used to predict wave transmission coefficients for nonbreaking, breaking, monochromatic, and irrregular wave conditions.

TR 80-2...A098 538
LeMEHAUTE, B., and WANG, J.D., "Transformation of Monochromatic Waves from Deep to Shallow Water," Aug. 1980.

Keywords: *Wave climatology, Wave transformation*

Prediction of nearshore wave characteristics is an essential part of any study dealing with the determination of littoral transport or longshore currents. This study reviews the state-of-the-art techniques for transformation of monochromatic surface gravity waves from deep to

shallow water over a varying bathymetry. Nonlinear effects are considered, and particular emphasis is put on the determination of breaking wave characteristics. A new "hybrid" wave theory for a plane sloping bottom is introduced which gives improved results for breaking characteristics as compared with existing theories. This hybrid theory uses cnoidal wave height transformation and linear wavelength transformation. Nomographs are presented for easy determination of breaking wave angles and other characteristics such as depth, wave height, and wavelength from given deepwater characteristics and bottom slope.

TR 81-1..A110 692
HALES, L.Z., "Floating Breakwaters: State-of-the-Art Literature Review," Oct. 1981.

Keywords: *Floating breakwaters*

This report provides an evaluation of the existing technical literature (theoretical, field, and laboratory) on floating breakwater concepts.

TR 82-1..
FLEMING, M.V., DeWall, A.E., Lawler, T.J., and French, D., Beach Profile Analysis System (BPAS), Volumes I - VIII, Jun. 1982.

Keywords: *Beach Evaluation Program-CERC; Mathematical models; Profiles*

A package of computer programs for editing, analyzing, and displaying beach profile survey data has been developed. The eight-volume package, named the Beach Profile Analysis System (BPAS), consists of an overview of the BPAS program, two editing programs, five analysis programs, and supporting appendixes. The volumes and accession numbers are listed below:

Vol. I---A119 447
"System Overview"

Vol. II---A119 448
"BPAS User's Guide: The Editing Routines, EDIT 1 and EDIT 2"

Vol. III---A119 449
"BPAS User's Guide: Analysis Module, SURVY 1"

Vol. IV---A119 450
"BPAS User's Guide: Analysis Module, SURVY 2"

Vol. V---A119 451
"BPAS User's Guide: Analysis Module, BEACH"

Vol. VI---A119 452
"BPAS User's Guide: Analysis Module, VOLCTR"

Vol. VII---A119 453
"BPAS User's Guide: Analysis Module, ELVDIS"

Vol. VIII---A118 480

"Supporting Appendixes for BPAS User's Guide"

TR 82-2...A121 558

THOMPSON, E.F., Nonrandom Behavior in Field Wave Spectra and Its Effect on Grouping of High Waves," Aug. 1982.

Keywords: *Analysis, spectral; Fast Fourier transform; Wave climatology; Wave grouping*

Wave measurements are examined from three relatively deepwater field sites in Lake Michigan, the Pacific Ocean, and the Gulf of Mexico. Approximately 1 hour of data representing high waves, single-peaked spectra, and nearly constant significant heights and peak spectral periods was selected for analysis. The data represent actively growing waves at two sites and swell at the third site. Analysis is done in both the frequency and the time domain.

TR 82-3...A120 681

VINCENT, C.L., "Depth-Limited Significant Wave Height: A Spectral Approach," Aug. 1982.

Keywords: *Analysis, spectral; Wave climatology; Wave energy*

A theoretical equation that describes the region of a wind wave spectrum above the frequency of the spectral peak in a finite depth of water is used to develop a method for estimating depth-limited significant wave height. The theoretical background for the equation, along with supporting field and laboratory data, is given. The method indicates that significant wave height, defined as four times the standard deviation of the wave record, is approximately proportional to the square root of the water depth.

TR 82-4...A123 972

HOBSON, R.D., "Performance of a Sand Trap Structure and Effects of Impounded Sediments, Channel Islands Harbor, California," Oct. 1982.

Keywords: *Channel Islands Harbor, CA; Sand bypassing; Sediment characteristics*

Monitoring of one complete filling cycle of a sand trap located at Channel Islands Harbor, California, has yielded textural and bathymetric data that (1) document patterns of infilling and sediment texture of the trapped sand, (2) compare coring versus surface grab sampling for describing native beach and fill sediment textures, and (3) determine the textural properties of trapped sediments and evaluate their performance as beach fill. This study was conducted at the conclusion of the Coastal Engineering Research Center's (CERC) long-term field investigation relating longshore transport volumes to wave energy thrust measurements. The data collected for this study consist of 28 vibratory cores of sediments, 8 cores from sites along a native beach profile, and 20 cores from sites within the trap. The long-term sediment transport study provided the remaining data used in this report.

MR 76-1..A022 653
SHERK, J.A., Jr., O'CONNOR, J.M., and NEUMANN, D.A., "Effects of Suspended Soils on Selected Estuarine Plankton," Jan. 1976.

Keywords: *Biological components; Dredging; Phtoplankton; Sediment transport*

A 3-year laboratory study identified biological components of selected populations of estuarine organisms most sensitive to the effects of different suspended sediments.

MR 76-2..A022 336
MILLER, G.H., and BERG, D.W., "An ERTS-1 Study of Coastal Features on the North Carolina Coast," Jan. 1976.

Keywords: *ERTS; Multispectral scanner; Remote sensing; Satellites*

Unenhanced imagery recorded by the multispectral scanner (MSS) of the NASA Earth Resources Technology Satellite (ERTS-1) was analyzed to determine how satellite imagery may be applied to specific coastal engineering problems.

MR 76-3..A023 178
SENECA, E.D., WOODHOUSE, W.W., Jr., and BROOME, S.W., "Dune Stabilization with Panicum amarum Along the North Carolina Coast," Feb. 1976.

Keywords: *Dunes; Transplanting; Vegetation*

This study was conducted to determine the dune stabilizing and dune building potential of *Panicum amarum* (bitter panicum) along the North Carolina coast.

MR 76-4..A022 337
AYERS, J., and STOKES, R., "Simplified Design Methods of Treated Timber Structures for Shore, Beach, and Marina Construction," Mar. 1976.

Keywords: *Bulkheads; Groins; Marine engineering; Piers, Pressure-treated timber; Seawalls*

Pressure-treated timber has wide application in waterfront and shore protection structures built in marina developments and other shore and beach locations bordering on bays, lakes, and river resorts and is the principal construction material for bulkheads, seawalls, piers, and groins at locations with mild exposure and shallow-to-intermediate water depths.

MR 76-5..A023 682
MADSEN, O.S., and WHITE, S.M., "Reflection and Transmission Characteristics of Porous Rubble-Mound Breakwaters," Mar. 1976.

Keywords: *Breakwater; Friction factor; Reflection wave; Transmission, wave*

This report presents the results of a study of the reflection and transmission characteristics of porous rubble-mound breakwaters, introducing empirical relationships for hydraulic characteristics of the porous material and the friction factor that expresses energy dissipation on the seaward slope of a breakwater.

MR 76-6..A025 178
LEVY, G.F., "Vegetative Study at the Duck Field Research Facility, Duck, North Carolina," Apr. 1976.

Keywords: *Duck, NC; Field Research Facility-CERC; Vegetation*

A vegetative study of the Duck Field Research Facility of the U.S. Army Coastal Engineering Research Center at Duck, North Carolina, was conducted from March 1974 through June 1975. Eleven different plant communities were delimited. Floristic collections made throughout the study period revealed a flora of approximately 178 species in 132 genera representing 58 families.

MR 76-7..A026 255
McCARTNEY, B.L., "Survey of Coastal Revetment Types," May 1976.

Keywords: *Filters; Revetments*

A review of 25 selected revetment types and a procedure for revetment design which includes identification of controlling site conditions, a comparative cost analysis method, and an example problem are presented. Design data include prototype installation examples; available model test results; and estimates of zero-damage wave heights, wave runup, and revetment wave reflection properties.

MR 76-8..A028 275
PRITCHETT, P.C., "Diurnal Variations in Visually Observed Breaking Waves," May 1976.

Keywords: *Sea breeze; Wave characteristics*

In over 53,000 visual observations made four times daily during June, July, and August at 17 U.S. Coast Guard stations on the Atlantic, Pacific, and gulf coasts of the United States, the average monthly diurnal variations in breaker height ranged from 0.05 to 0.36 foot; diurnal variations averaged about 10 percent of the monthly mean height.

MR 76-9..A028 274
AHRENS, J., "Wave Attenuation by Artificial Seaweed," June 1976.

Keywords: *Artificial seaweed; Attenuation, wave; Seaweed*

A series of wave tank tests was conducted at CERC to determine the ability of a field of low specific gravity artificial seaweed to attenuate wave action. Ten distinct wave conditions, using 2.6- to

8.2-second periods, 24- to 110-centimeter wave heights, and a 2.4-meter stillwater depth, were tested.

MR 76-10..A031 992
SALOMAN, C.H., "The Benthic Fauna and Sediments of the Nearshore Zone off Panama City Beach, Florida," Aug. 1976.

Keywords: *Fauna; Hurricanes; Panama City Beach, FL*

This study presents basic scientific data on the benthic fauna and surface sediments of the nearshore zone of Panama City Beach, Florida, before restoration of the beach and the results of a study on the effect of Hurricane Eloise on the benthic fauna in the swash zone of Panama City Beach.

MR 76-11..A033 041
TELEKI, P.G., MUSIALOWSKI, F.R., and PRINS, D.A., "Measurement Techniques for Coastal Waves and Currents," Nov. 1976.

Keywords: *Current meters; Dye tracers; Gages, wave; Instrumentation; Sea sled*

Report discusses a mobile battery-operated system (TODAS) consisting of a towed platform (sea sled) with current meters and a wave gage, developed for collection of data on nearshore currents and waves. TODAS can be used for real-time evaluation of flow characteristics between shore and a depth of 9.14 meters.

MR 77-1...A038 593
LOFQUIST, K.E.B., "A Positive Displacement Oscillatory Water Tunnel," Feb. 1977.

Keywords: *Sediment transport; Water tunnel*

Report documents the design, construction, and operation of an oscillating water tunnel. Test section of facility replicates prototype conditions at the seabed under sinusoidal waves offshore of the breaker zone. Water tunnel has performed satisfactorily for over 2 years in studies of sand movement and transport.

MR 77-2...A038 747
BOWIE, G.L., and WIEGEL, R.L., "Marine Pipelines: An Annotated Bibliography," Mar. 1977.

Keywords: *Bibliographies; Pipelines*

This annotated bibliography presents a compilation of literature describing the design, construction, operation, and maintenance of pipelines in the ocean and rivers. The problems encountered in installing and repairing pipelines are discussed.

MR 77-3..A040 082

RAMSEY, M.D., and GALVIN, C.J., Jr., "Size Analysis of Sand Samples from Southern New Jersey Beaches," Mar. 1977.

Keywords: *Beach Evaluation Program-CERC; Atlantic City, NJ; Brigantine, NJ; Island Beach, NJ; Long Beach Island, NJ; Ludlam Island, NJ*

The size of sand on Atlantic coast beaches of southern New Jersey was studied by analyzing 788 sand samples. In north-to-south order, the samples were collected at Island Beach, Long Beach Island, Brigantine, Atlantic City, and Ludlam Island. The results in this report provide site-specific engineering data for New Jersey beaches, and suggest ways to improve beach fills at these sites.

MR 77-4..A039 265

RAY, R.E., "A Laboratory Study of the Stability of Sand-Filled Nylon Bag Breakwater Structures," Mar. 1977.

Keywords: *Breakwaters; Sandbags*

Report discusses results of full-scale laboratory tests for one emergent and three submerged breakwaters of sand-filled nylon bags on a sand bed which were subjected to severe wave conditions. Tests determined bag properties, effects of wave action on bag placement, and performance of bags and structures for various combinations of structure configuration and wave conditions. Changes in the sand bed at base of structures and wave attenuation by the breakwaters were also investigated.

MR 77-5..A039 266

ABELE, R.W., Jr., "Analysis of Short-Term Variations in Beach Morphology (and Concurrent Dynamic Processes) for Summer and Winter Periods, 1971-72, Plum Island, Massachusetts," Mar. 1977.

Keywords: *Currents; Meteorological data; Plum Island, MA; Profiles; Waves characterists*

Report analyzes the relationship between wave and meteorological variables and beach morphology during summer and winter periods, 1971-72, at Plum Island, Massachusetts. Variations in beach process variables were directly related to storm systems in the area.

MR 77-6..A040 593

MATTA, J.F., "Beach Fauna Study of the CERC Field Research Facility, Duck, North Carolina," Apr. 1977.

Keywords: *Duck, NC; Field Research Facility-CERC*

The results of an intensive seasonal study of the beach fauna of a barrier island in Dare County, North Carolina, are presented. Study areas include the beach face from margin of the swash zone to 60 meters offshore on the ocean beach and from swash zone to 300 meters offshore

on the sound beach. A simple quantitative sampling device was also developed for use in the surf zone.

MR 77-7..Vol. I---A043 870
STAFFORD, R.P., and CHESNUTT, C.B., "Procedures Used in 10 Movable-Bed Experiments," *Laboratory Effects in Beach Studies*, June 1977.

Keywords (Vols. I-VIII): *Movable-bed modeling; Profiles; Reflection, wave; Wave climatology; Wave tanks*

Ten experiments were conducted at the Coastal Engineering Research Center (CERC) from 1970 to 1972 as part of an investigation of the Laboratory Effects in Beach Studies (LEBS), to relate wave height variability to wave reflection from a movable-bed profile in a wave tank. The investigation also identified the effects of other laboratory constraints. A series of eight volumes documents the results of these experiments.

Volume I contains the procedures developed and conditions existing during 10 experiments on LEBS as a convenient reference to the analyses of LEBS data reported in separate volumes. This report also serves as a procedural manual for a common type of coastal engineering experiment, and it describes the wave generators used to produce data published in previous reports by CERC. Special attention is given to the problem of running movable-bed experiments in outdoor facilities. Recordkeeping, construction of initial profile, water level control, wave height measurement, analysis of wave envelopes, ripple effects on profile accuracy, temperature measurement, and observation of breakers and currents are also discussed.

Vol. II---A045 462
CHESNUTT, C.B., and STAFFORD, R.P., "Movable-Bed Experiments with H_o/L_o = 0.021 (1970)," *Laboratory Effects in Beach Studies*, Aug. 1977.

Two movable-bed experiments were conducted in 6- and 10-foot-wide tanks for 175 and 210 hours, respectively, with a wave period of 1.90 seconds and generated wave height of 0.36 foot. The reflection coefficient from the changing profile varied from 0.08 to 0.20 in the 6-foot tank and 0.04 to 0.19 in the 10-foot tank, and the variations can be qualitatively related to changes in the profile shape. The experiments suggest that tank width and length and water temperature affect laboratory profile development and that under common laboratory conditions the profiles approach equilibrium more slowly than normally assumed.

Vol. III---A049 871
CHESNUTT, C.B., and STAFFORD, R.P., "Movable-Bed Experiments with H_o/L_o = 0.021 (1971)," *Laboratory Effects in Beach Studies*, Nov. 1977.

Two movable-bed experiments were conducted in 6- and 10-foot-wide wave tanks for 375 and 335 hours, respectively, with a wave period of 1.90 seconds and a generated wave height of 0.36 foot.

Significant lateral variations occurred in the profile development rate and profile shape in the 10-foot tank, which did not occur in the 6-foot tank, indicating that tank width can affect the study of littoral processes in movable-bed experiments.

Wave reflection from the movable-bed profile varied considerably as the profile in both wave tanks developed from an initial planar (0.10) slope to one closer to equilibrium. The reflection coefficient, K_R can be related qualitatively to profile development.

Even with the fine-grained, well-sorted sediment used, a measurable sorting occurred as the finer material was eroded and deposited offshore.

Vol. IV---A051 872

CHESNUTT, C.B., and STAFFORD, R.P., "Movable-Bed Experiments with $H_o/L_o = 0.021$ (1972)," *Laboratory Effects in Beach Studies*, Dec. 1977.

A two-dimensional movable-bed experiment was conducted in a 6-foot-wide wave tank for 180 hours, with a wave period of 1.90 seconds and a generated wave height of 0.36 foot. The profile had an initial slope of 0.05, which was flatter than the profiles in earlier experiments (0.10 in Vols. II and III of the series) and developed a different profile shape. The profile never reached equilibrium, although the shoreline stopped retreating and the water temperature was relatively constant for the last 80 hours. Even with the fine-grained, well-sorted sediment used, a measurable sorting occurred as the finer material was eroded and deposited on other parts of the profile.

The reflection coefficient, K_R , varied from 0.04 to 0.27, and the variations in K_R can be related qualitatively to profile development. The reflection coefficient from the foreshore zone was between 0.06 and 0.12. The large variation in the total profile K_R appears to be the result of changes in the elevation of the offshore reflecting zone and changes in the distance between the foreshore and offshore reflecting zones.

Vol. V---A051 484

CHESNUTT, C.B., and STAFFORD, R.P., "Movable-Bed Experiments with $H_o/L_o = 0.039$," *Laboratory Effects in Beach Studies*, Dec. 1977.

In an experiment with a wavelength of 10.26 feet (wave period = 1.50 seconds) on an initial movable-bed slope of 0.10 in a tank 10 feet wide with waves directed normal to the initial shoreline, the foreshore and inshore changes of the profile were three-dimensional to such an extent that a longshore current developed at the base of the foreshore. Comparable experiments in the same facility, but with a longer wavelength, did not show three-dimensional effects to as great an extent. As a working hypothesis, it is proposed that the shorter the wavelength in a movable-bed experiment relative to a given tank width, the greater the likelihood of three-dimensional effects in profile development.

Vol. VI---A055 186

CHESNUTT, C.B., and STAFFORD, R.P., "Movable-Bed Experiments with H_o/L_o = 0.004," *Laboratory Effects in Beach Studies*, Mar. 1978.

Two experiments with long low waves on 0.2-millimeter sand slopes in tanks 6 to 10 feet wide showed very different development, apparently because current circulation, present only in the 6-foot tank, was more effective in distributing sand in the onshore-offshore direction. In the 6-foot tank, the profile developed a more distinct shelf separated by two relatively steep seaward-facing slopes. The clockwise circulation pattern occurred over the shelf between the foreshore and the first seaward antinode of the standing wave envelope, a distance approximately twice the tank width. This current pattern in the 6-foot tank began to disintegrate after about 70 hours.

The reflection coefficient, K_R , varied from 0.17 to 0.31 in the 6-foot tank, increasing as the shelf developed during the time of active circulation. K_R then began decreasing as the steep offshore slope began flattening. In the 10-foot tank, K_R was higher, varying from 0.24 to 0.37 and tended to increase with steepening of the foreshore.

Vol. VII---A055 021

CHESNUTT, C.B., and STAFFORD, R.P., "Movable-Bed Experiments with H_o/L_o = 0.013," *Laboratory Effects in Beach Studies*, Mar. 1978.

In two experiments with a wave period of 2.35 seconds on an initial movable-bed slope of 0.10 in tanks 6 and 10 feet wide, significant differences in profile shape and wave height variability developed. Secondary wave and re-reflection effects resulting from the 38.3-foot difference in distance from the wave generator to the profile toe caused differences in the shape of the offshore zone. The 0.15-foot gap at the end of the generator blade in the 10-foot tank and the critical combination of wavelength and tank width generated a transverse wave. The transverse wave affected the profile shape--the shoreline became skewed, the depth over the shelf in the offshore zone increased laterally, and changes in the inshore zone progressed from one side of the tank to the other during the course of the experiment.

The reflection coefficient K_R , varied from 0.03 to 0.14 in the 6-foot tank, and the average in the 10-foot tank varied from 0.11 to 0.24, with considerable lateral variation. Changes in K_R in the 10-foot tank correlated well with changes in the shape of the upper part of the offshore zone.

Vol. VIII---A058 703

CHESNUTT, C.B., "Analysis of Results from 10 Movable-Bed Experiments," *Laboratory Effects in Beach Studies*, June 1978.

Volume VIII, the last in a series of eight volumes on the Laboratory Effects in Beach Studies (LEBS) experiments, is a comprehensive analysis of results from the 10 LEBS experiments conducted at CERC from 1970 to 1972. This volume includes a further analysis of each experiment

MR 77-7 (Concluded)

and how it relates to the other nine experiments on wave height variability, profile equilibrium, and laboratory effects.

MR 77-8..A043 875
DAHL, B.E., and GOEN, J.P., "Monitoring of Foredunes on Padre Island, Texas," July 1977.

Keywords: *Dunes; Padre Island, TX; Vegetation*

This study was conducted to continue monitoring foredunes formed from grass plantings during 1969 to 1973 on north Padre Island beaches. The report summarizes data obtained from elevational profiles and vegetative transects at one natural foredune and four experimental foredunes during 1975 and 1976.

MR 77-9..A045 469
QUINN, M.L., "The History of the Beach Erosion Board, U.S. Army, Corps of Engineers, 1930-63," Aug. 1977.

Keywords: *Beach Erosion Board; Histories*

This report provides an accurate record of the 33-year history of the Beach Erosion Board (BEB), predecessor of the Coastal Engineering Research Center (CERC). The report discusses the events which led to the creation of the BEB and the significant effects these events had upon the BEB's course of direction.

MR 77-10...A047 641
LeMEHAUTE, B., and SOLDATE M., "Mathematical Modeling of Shoreline Evolution," Oct. 1977.

Keywords: *Mathematical models; Sediment transport; Shore processes*

A critical literature survey on mathematical modeling of shoreline evolution is presented. The emphasis is on long-term evolution rather than seasonal or evolution taking place during a storm. The one-line theory of Pelnard-Considere (1956) is developed along with a number of applications. Refinements to the theory are introduced by considering changes of beach slope, wave diffraction effects, wave variation, and variation of sea level. The case of hooked bays is also reviewed.

MR 77-11...A049 132
MEISBURGER, E.P., "Sand Resources on the Inner Continental Shelf of the Cape Fear Region, North Carolina," Nov. 1977.

Keywords: *ICONS; Seismic reflection*

The Inner Continental Shelf of North Carolina between the South Carolina border and Cape Lookout was investigated to obtain information on bottom and subbottom sediment deposits and geologic structure. Primary survey coverage consists of 512 statute miles of high-resolution

seismic reflection profiles and 124 cores ranging in length from 2 to 20 feet.

MR 77-12..A049 563
GOLDSMITH, V., STRUM, S.C., and THOMAS, G.R., "Beach Erosion and Accretion at Virginia Beach, Virginia, and Vicinity," Dec. 1977.

Keywords: *Profiles; Virginia Beach, VA*

Eighteen profile lines from Fort Story south to the Virginia-North Carolina State line were surveyed monthly for 27 months (September 1974 to December 1976). Net volume changes were moderate, with maximum rates of accretion at the north and south ends of the study area. A statistical analysis using earlier surveys going back to November 1956 confirms the pattern of accretion in the north and south separated by erosion in the middle. Maximum annualized accretion rate during the 27-month study was 18.9 cubic meters per meter of beach front per year at profile line 1 (Fort Story), and there was a maximum erosion rate of 11.6 cubic meters per year at profile line 9 (Sandbridge). The ridge-and-runnel morphology typical of many active shorelines was not observed in the study area.

MR 78-1..A053 285
WEBB, J.W., and DODD, J.D., "Shoreline Plant Establishment and Use of a Wave-Stilling Device," Jan. 1978.

Keywords: *East Bay, TX; Tires; Transplanting; Vegetation*

The establishment and development of smooth cordgrass transplants on a 2-percent slope behind a wave-stilling device constructed of two tiers of tires strung on a cable were monitored along the north shore of East Bay, Texas. Two previous plantings on the sloped area, the first without wave protection and the second behind one tier of tires, were unsuccessful. After a second tier of tires was placed on top of the original tier, enough protection from waves was provided to allow a successful planting.

MR 78-2..A058 712
PULLEN, E.J., et al., "An Annotated Bibliography of CERC Coastal Ecology Research," May 1978.

Keywords: *Bibliographies, Ecology*

This bibliography identifies the research work that was either funded by or published by the CERC Coastal Ecology Branch from 1967 to March 1978.

MR 78-3..A062 065
JOHNSON, G.F., and deWIT, L.A., "Ecological Effects of an Artificial Island, Rincon Island, Punta Gorda, California," Sept. 1978.

Keywords: *Armor units; Artificial islands; Ecology; Fish; Rincon Island, CA*

This report describes an 18-month study sponsored by CERC to examine ecological effects of the construction of Rincon Island, the first major artificial island to be constructed with full ocean exposure. Rincon Island's rock revetments offer a diversity of habitat features for a great variety of marine species which do not occur in adjacent natural bottom areas. The construction of the artificial island has had a major beneficial effect on local ecological conditions.

MR 78-4...A067 308
PARR, T., DIENER, D., and LACY, S., "Effects of Beach Replenishment on the Nearshore Sand Fauna at Imperial Beach, California," Dec. 1978.

Keywords: *Beach nourishment; Imperial Beach, CA; Fauna*

This report presents results from a study of impacted and potentially impacted sedimentary communities in and near an area where approximately 765,000 cubic meters of dredged sediment was pumped onto a coastal, exposed beach to replenish part of the shoreline at Imperial Beach, California. The aim of the study was to establish relationships between beach replenishment and measurable biological variables in the shallow-water community (e.g., composition, species abundances, and diversity) and those measurable abiotic variables (e.g., sediment type) considered important for their influence on biological community structure.

MR 79-1...A068 981
LESNIK, J.R., "An Annotated Bibliography on Detached Breakwaters and Artificial Headlands," Feb. 1979.

Keywords: *Bibliographies; Breakwaters*

This annotated bibliography is presented to assist in the development of reliable design procedures for detached breakwaters. The references deal with topics which can be usefully applied to the design problem, although many are not limited solely to the subject of detached breakwaters. Papers on wave diffraction, reflection, transmission, and overtopping are also included.

MR 79-2...A072 924
NEWCOMBE, C.L., et al., "Bank Erosion Control With Vegetation, San Francisco Bay, California," May 1979.

Keywords: *Erosion; Marshes; San Francisco Bay, CA; San Pablo Bay, CA; Vegetation*

During 1975 to 1978, an intertidal shoreline stabilization study was conducted to determine biological means of controlling erosion. California cordgrass (*Spartina foliosa* Trin.) and mussels (*Ischadium demissum* Dillwyn) were used in San Pablo Bay and South San Francisco Bay, California.

MR 79-3..A073 817

MEISBURGER, E.P., WILLIAMS, S.J., and PRINS, D.A., "Sand Resources of Southeastern Lake Michigan," July 1979.

Keywords: *Geomorphology; ICONS; Lake Michigan; Seismic reflection*

The eastern shore of Lake Michigan between Manistee, Michigan, and Burns Harbor, Indiana, was surveyed to locate offshore sand deposits suitable for use in beach restoration and maintenance. The highest potential for offshore sand resources is in the area between Whitehall and Saugatuck, Michigan. Localized deposits with good potential occur in several places between Manistee and Whitehall, Michigan, and from Saugatuck to 15 kilometers south of Benton Harbor, Michigan. The area of lowest potential is from Benton Harbor southward to Burns Harbor, Indiana, where only a thin veneer of surficial sand overlies silt and clay deposits.

MR 79-4..A074 393

WILLIAMS, S.J., PRINS, D.A., and MEISBURGER, E.P., "Sediment Distribution Sand Resources, and Geologic Character of the Inner Continental Shelf Off Galveston County, Texas," July 1979.

Keywords: *Galveston County, TX; Geomorphology; ICONS; Seismic reflection*

About 850 square kilometers of the Texas inner shelf from High Island to Freeport were surveyed and studied, using high-resolution continuous seismic reflection profiles taken along several hundred kilometers of trackline and 34 long cores, to determine the general geologic character and surface and subbottom sediment distribution. The objective was to assess the resource potential of sand deposits suitable as fill for beach nourishment projects.

MR 79-5..A073 605

DeWALL, A.E., "Beach Changes at Westhampton Beach, New York, 1962-73," Aug. 1979.

Keywords: *Beach Evaluation Program-CERC; Erosion; Groins; Profiles; Westhampton Beach, NY*

Report describes an 11-year study of beach changes at Westhampton Beach, New York, analyzed as part of the U.S. Army Coastal Engineering Research Center (CERC) Beach Evaluation Program (BEP). The report presents an analysis of beach profile changes, documents the precise location of the surveyed profile lines, and describes the survey procedures used and accuracy obtained in repetitive surveys to wading depth.

MR 79-6..A080 914

RAY, R.E., DICKEY, M.D., and LYLES, A.M., "An Annotated Bibliography of Patents Related to Coastal Engineering," Nov. 1979.

Keywords: *Bibliographies; Patents*

Report describes a collection of 2,468 coastal engineering patents (issued by the U.S. Patent Office from 1967 to 1976) published as a separate limited-edition three-volume appendix to this report. A bibliographical guide to the collection and search aids are provided. Patent topics include coastal structures and structural components, structure protection and maintenance, construction methods and equipment, field research and survey instruments, hydraulic laboratory modeling equipment, marine pollution control apparatus, and ocean energy extraction devices.

Appendix: Vol. I---A080 795
Vol. II---A080 796
Vol. III---A080 797

Appendix presents a three-volume collection of patents on coastal engineering issued by the U.S. Patent Office from 1967 to 1976. Topics include coastal structures and structural components, structure protection and maintenance, construction methods and equipment, field research and survey instruments, hydraulic laboratory modeling equipment, marine pollution control apparatus, and ocean energy extraction devices. Abstracts and annotations for 2,468 patents are given covering the periods 1967 to 1970 (Vol. I), 1971 to 1973 (Vol. II), and 1974 to 1976 (Vol. III). Each volume includes a list of patent titles and numbers and a keyword index. Explanatory information on the overall collection and its use is given in Volume I. Volumes I, II, and III are not in stock at CERC. They can be obtained from the National Technical Information Service.

MR 80-1 (I)..Vol. I---A083 595
COURTENAY, W.R., Jr., HARTIG, B.C., and LOISEL, G.R., "Evaluation of Fish Populations Adjacent to Borrow Areas of Beach Nourishment Project, Hallandale (Broward County), Florida," *Ecological Evaluation of a Beach Nourishment Project at Hallandale (Broward County), Florida*, Feb. 1980.

Keywords: *Beach nourishment; Broward County, FL; Ecology; Fish; Hallandale, FL*

This report (Vol. I) provides the first comprehensive study of the impact of beach nourishment and offshore borrowing on nearshore and coral reef fish populations. The study assesses the fish populations within the surf zone and over the first and second reefs of Hallandale (Broward County), Florida, 7 years following dredging for a beach restoration project.

..Vol. II---A085 802
MARSH, G.A., et al., "Evaluation of Benthic Communities Adjacent to a Restored Beach, Hallandale (Broward County), Florida," *Ecological Evaluation of a Beach Nourishment Project at Hallandale (Broward County), Florida*, Mar. 1980.

Keywords: *Beach nourishment; Fauna; Golden Beach, FL; Hallandale, FL*

Benthic communities adjacent to a restored beach at Hallandale (Broward County), Florida, were analyzed and compared to similar communities at nearby Golden Beach (Dade County). Five sand stations and four reef stations were sampled along a transect from the intertidal zone through the second reef. This study assesses the postnourishment condition of sandy bottom- and reef-dwelling communities approximately 7 years after beach nourishment and offshore dredging. The study also provides prenourishment data for an impact analysis of a fill project underway at Hallandale in September 1979.

MR 80-2..A087 262
BIRKEMEIER, W.A., "The Effect of Structures and Lake Level on Bluff and Shore Erosion in Berrien County, Michigan, 1970-74," Apr. 1980.

Keywords: *Berrien County, MI; Bluffs; Erosion; Great Lakes; Lake Michigan*

Rates of bluff recession and shoreline change along five 1.6-kilometer reaches within Berrien County, Michigan, were measured between 1970 and 1974, using aerial photos. Procedures used in analyzing the aerial photos and their accuracy are described in an Appendix. Guidance is also given for determining the number of measurement points needed per distance along the shore depending on the desired accuracy of the bluff recession rates.

MR 80-3..A087 796
EVERTS, C.H., DeWALL, A.E., and CZERNIAK, M.T., "Beach and Inlet Changes at Ludlam Beach, New Jersey," May 1980.

Keywords: *Beach Evaluation Program-CERC; Groins; Ludlam Beach, NJ; Profiles; Tidal inlets*

This study investigated changes during a 10-year period (1962-72) in beach shape, shoreline position, and sand volume above MSL at 20 profile locations on Ludlam Beach, New Jersey. The plan shape of the 7.5-mile-long, 0.25- to 1-mile-wide barrier island is one in which the inlet shorelines protrude considerably seaward of the indentation near the island ends. Superimposed on that indentation is a shoreline bulge in the vicinity of the Sea Isle City groin system.

MR 80-4..A088 636
MEISBURGER, E.P., and WILLIAMS, S.J., "Sand Resources on the Inner Continental Shelf of the Cape May Region, New Jersey," July 1980.

Keywords: *Cape May, NJ; Geomorphology; ICONS; Inner Continental Shelf; Seismic reflection*

About 1.235 square kilometers of the Inner Continental Shelf adjacent to Cape May peninsula was investigated by a seismic reflection and coring survey to obtain geologic information on sea floor and subbottom sand and gravel deposits having suitable characteristics for use as fill in beach nourishment and restoration projects; water depths ranged from about 1.5 to 21 meters. A total of 1,258 kilometers of seismic

profiles and 104 vibratory cores, ranging in length from 1 to 3.7 meters, were examined.

MR 80-5..A088 585
PULLEN, E.J., et al., "An Annotated Bibliography of CERC Coastal Ecology Research," June 1980.

Keywords: *Bibliographies; Ecology*

This bibliography identifies the research work that was either funded by or published by the CERC Coastal Ecology Branch from 1967 to March 1980.

MR 80-6..A090 133
LeMEHAUTE, B., and SOLDATE, M., "A Numerical Model for Predicting Shoreline Changes," July 1980.

Keywords: *Currents; Diffraction, wave; Great Lakes; Holland Harbor, MI; Mathematical models; Refraction, wave; Shore processes*

A mathematical model for long-term, three-dimensional shoreline evolution is developed. The combined effects of variations of sea level; wave refraction and diffraction; loss of sand by density currents during storms, by rip currents, and by wind; bluff erosion and berm accretion; effects of manmade structures such as long groin or navigational structures; and beach nourishment are all taken into account. A computer program is developed with various subroutines which permit modification as the state-of-the-art progresses. The program is applied to a test case at Holland Harbor, Michigan.

MR 80-7..A092 584
KNIGHT, D.B., KNUTSON, P.L., and PULLEN, E.J., "An Annotated Bibliography of Seagrasses with Emphasis on Planting and Propagation Techniques," Sept. 1980.

Keywords: *Bibliographies; Vegetation*

This bibliography includes abstracts on 145 historic and recently published research reports on seagrasses, with emphasis on Halodule, Ruppia, Thalassia and Zostera. The compilation of reports emphasizes planting and propagation techniques for seagrasses and important environmental parameters for successful transplanting. The bibliography is published to aid coastal engineers and scientists in planning, designing, and transplanting seagrasses to rehabilitate areas affected by coastal engineering projects and to stabilize substrates adjacent to navigation channels.

MR 80-8..A091 730
MILLER, H.C., "Instrumentation at CERC's Field Research Facility, Duck, North Carolina," Oct. 1980.

Keywords: *Duck, NC, Field Research Facility-CERC, Instrumentation*

Report describes the oceanographic and meteorological instrumentation used for the collection of environmental data at the Coastal Engineering Research Center's (CERC) Field Research Facility (FRF) at Duck, North Carolina; the necessary information for proper interpretation of the instrument data is also presented. An appendix contains installation summaries for each instrument described in the report.

MR 80-9 .... A101 844
MILLER, M.C., AUBREY, D.G., and KARPEN, J., "Beach Changes at Long Beach Island, New Jersey, 1962-73," Oct. 1980.

Keywords: *Erosion; Groins; Long Beach Island, NJ; Profiles*

Beach profile line data collected as part of the Beach Evaluation Program (BEP) were examined from 32 profile sites along Long Beach Island, New Jersey. A total of 2,158 profile line surveys were examined, using empirical eigenfunction analysis and other measures of beach variability.

MR 80-10 .... A097 984
WILLIAMS, S.J., et al., "Sand Resources of Southern Lake Erie, Conneaut to Toledo, Ohio--A Seismic Reflection and Vibracore Study," Nov. 1980.

Keywords: *Coring Devices; Geomorphology; ICONS; Lake Erie; Seismic reflection*

About 2,250 square kilometers of the Lake Erie bottom between Conneaut and Toledo, about 25 percent of Ohio's open lake part of Lake Erie, was surveyed to assess potential sand and gravel resources. Primary survey data consist of 690 kilometers of high-resolution seismic reflection profiles between Conneaut and Toledo; 58 vibracores with a maximum length of 6.1 meters were also taken between Conneaut and Marblehead, Ohio. Survey limits were generally from the -7.5-meter depth contour to about the -14-meter depth contour, a maximum of about 16 kilometers offshore. The objectives of this survey were to acquire additional information, primarily subbottom data from known sand deposits along the south shore of Lake Erie, and to investigate the areas between the known sand deposits for undiscovered sand and gravel resources.

MR 81-1 .... A101 843
MASON, C., "Hydraulics and Stability of Five Texas Inlets," Jan. 1981.

Keywords: *Freeport Harbor, TX; Galveston Bay, TX; Rollover Pass, TX; Sabine Pass, TX; San Luis Pass, TX; Tidal Inlets*

This report provides improved planning and design information on the hydraulic characteristics, stability, and effect on the longshore transport regime and adjacent beaches of five inlet-bay systems (Freeport Harbor, San Luis Pass, Galveston Bay, Rollover Pass, and Sabine Pass) on the upper Texas coast.

MR 81-2..A097 985
BIRKEMEIER, W.A., "Coastal Changes, Eastern Lake Michigan, 1970-74," Jan. 1981.

Keywords: *Bluffs; Lake levels; Lake Michigan; Profiles*

This report is published to improve the understanding of Great Lakes bluff recession and the factors controlling it. Bluff recession and volumetric losses at 17 profile lines along the eastern shore of Lake Michigan were measured monthly from August 1970 to December 1974. This is the final report of a 4-year study of these profile lines.

MR 81-3..A101 902
McCANN, D.P., "Beach Changes at Atlantic City, New Jersey (1962-73)," Mar. 1981.

Keywords: *Absecon Island, NJ; Atlantic City, NJ; Beach Evaluation Program-CERC; Beach nourishment; Erosion; Profiles*

Repetitive surveys of the above MSL beach were made along seven profile lines at Atlantic City, on the northeast end of Absecon Island, New Jersey, from 1962 to 1973. Major beach-fill projects were accomplished in 1963 and 1970 which introduced approximately 428,000 and 635,000 cubic meters of fill material, respectively, to the northernmost half of the study area; movements of this material are discussed. Seventeen storms were reasonably well documented during the study, and their effects are reported.

MR 81-4..A101 918
VITALE, P., "Movable-Bed Laboratory Experiments Comparing Radiation Stress and Energy Flux Factor as Predictors of Longshore Transport Rate," Apr. 1981.

Keywords: *Longshore energy flux; Movable-bed modeling; Sediment transport*

The results of three-dimensional movable-bed laboratory tests are used to empirically relate the longshore sediment transport rate to the radiation stress and the longshore energy flux factor. Both correlate equally well with the longshore transport rate, producing correlation coefficient squared values of approximately 0.70. The surf similarity parameter also shows a strong influence on the longshore transport rate.

MR 81-5..A106 973
HIGLEY, D.L., and HOLTON, R.L., "A Study of the Invertebrates and Fishes of Salt Marshes in Two Oregon Estuaries," June 1981.

Keywords: *Fish; Invertebrates; Marshes; Netarts Bay, OR; Siletz Bay, OR*

This study examines the invertebrate and fish life in the estuarine tidal marshes of Siletz and Netarts Bays, Oregon. Sweep nets, corers,

enclosures, and clip-quadrat samplers were used to collect both quantitative and nonquantitative samples of invertebrates in level marsh, pan, tidal creek, and tidal flat habitats located in seven study areas representing various types of marsh. Fish in these habitats, as well as in a slough and in bay channels, were sampled by seine and otter trawls. Community taxonomic composition and trophic structure, along with fish stomach contents, are presented as relative frequency histograms and pie charts.

MR 81-6..A103 168
WINTON, T.C., et al., "Analysis of Coastal Sediment Transport Processes from Wrightsville Beach to Fort Fisher, North Carolina," June 1981.

Keywords: *Beach nourishment; Budget, sediment; Carolina Beach, NC; Fort Fisher, NC; Wrightsville, NC*

A comprehensive engineering analysis of the coastal sediment transport processes along a 42-kilometer segment of the North Carolina shoreline from Wrightsville Beach to Fort Fisher is presented. Included in the analysis is an interpretation of the littoral processes, longshore transport, and the behavior and success of beach nourishment projects at Wrightsville Beach and Carolina Beach, North Carolina.

MR 81-7..A110 602
BIRKEMEIER, W.A., et al., "A User's Guide to CERC's Field Research Facility," Oct. 1981.

Keywords: *Duck, NC; Field Research Facility-CERC; Instrumentation*

The Coastal Engineering Research Center's (CERC) Field Research Facility (FRF) at Duck, North Carolina, is a 561-meter-long (1,841-foot) pier and laboratory dedicated to basic and applied coastal research. This report, which describes the facility, the instrumentation and data being collected, and the local area, is designed to be used as a tool in planning experiments to be conducted at the facility.

MR 82-1..A110 666
TURBEVILLE, D.B., and MARSH, G.A., "Benthic Fauna of an Offshore Borrow Area in Broward County, Florida," Jan. 1982.

Keywords: *Broward County, FL; Dredging; Ecology; Fauna*

Benthic fauna from two stations within a 5-year-old borrow area and two control stations off Hillsboro Beach (Broward County), Florida, were sampled quarterly from June 1977 to March 1978 to evaluate the long-term impact of offshore dredging.

MR 82-2..A115 212
CULTER, J.K., and MAHADEVAN, S., "Long-Term Effects of Beach Nourishment on the Benthic Fauna of Panama City Beach, Florida," Jan. 1982.

Keywords: *Beach Nourishment; Fauna; Panama City Beach, FL*

The long-term effects of beach nourishment on the benthic infauna and surface sediments of Panama City beaches were investigated. Forty-seven stations located on nine transects between West Pass and Phillips Inlet and two nourishment borrow sites were sampled in November-December 1979 and May 1980. The data collected were compared to pre-nourishment baseline information collected by Saloman. Based on benthic community analyses and sediment parameters, no significant differences were found between nourishment borrow sites and surrounding areas and in the nearshore areas where beach nourishment was conducted. No long-term adverse effects of beach nourishment were detected.

MR 82-3...A116 340
SALOMAN, C.H., NAUGHTON, S.P., and TAYLOR, J.L., "Benthic Community Response to Dredging Borrow Pits, Panama City Beach, Florida," March 1982.

Keywords: *Dredging; Ecology; Panama City Beach, FL*

This report gives biological and physical oceanographic data from baseline work and studies of dredged and undredged sediments before and after dredging (9-meter contour) for beach nourishment at Panama City Beach, Florida. These studies wre designed to show major short-term environmental effects of offshore dredging and included analyses of hydrology, sediments, and benthos.

MR 82-4...A119 476
BAIRD, A.V., and ROSS, N.W., "Field Experiences with Floating Breakwaters in the Eastern United States," Jul. 1982.

Keywords: *Floating breakwaters*

In the past 10 years, the use of floating breakwaters (FBs) as temporary coastal structures has become increasingly widespread in the United States as a relatively inexpensive means for suppressing waves. However, as with any new technology, there have been many failures and a substantial number of imaginative, successful innovations. One of the chief problems contributing to the failure rate has been a lack of awareness by FB designers of reliable, up-to-date technical information. Similarly, much of the circulated technical literature has limited value because some of the authors of these reports were unaware of current FB technology and performance studies. Recognizing the above problem, the U.S. Army Corps of Engineers initiated a research effort to gather all available data on the existing FBs so a central source of design information would be available to the next generation of builders. One component of this overall effort was a survey of field experiences with FBs in the Eastern United States (all states east of the Mississippi River). Marine Resource Management, Inc. (MRM), was chosen to conduct this work. MRM was aided by the technical supervision of the coauthor,

Neil Ross, a pioneer in the development and testing of the Goodyear Floating Breakwater (FTB) at the University of Rhode Island (URI).

MR 82-5..A121 557
RICHEY, E.P., "Floating Breakwater Field Experience, West Coast," Jul. 1982.

Keywords: *Floating breakwaters*

This report evaluates 11 existing floating breakwaters located in the Pacific Northwest. The breakwaters consist of five concrete caisson units, three Alaskan-catamaran or ladder-type breakwaters constructed of posttensioned concrete segments, one constructed of surplus oil pipeline sections, one Goodyear floating-tire module breakwater, and one with units consisting of four rows of plastic pontoons. The report includes a description of each site and breakwater structure; a discussion of the breakwater's performance based on site inspections and discussions with owners, marina operators, etc.; and a set of conclusions for the overall evaluation of the structures.

MR 82-6..A128 551
SCHNEIDER, C., and WEGGEL, J.R., "Littoral Environment Observation (LEO) Data Summaries, Northern California, 1968-78", Aug. 1982.

Keywords: *Data collection, LEO*

This report briefly describes the Littoral Environment Observation (LEO) Program and its operation in northern California from 1968 to 1978. A summary of LEO data from 25 northern California sites is presented along with data on breaker height, period, direction, and type; wind speed and direction; longshore current velocity and direction; beach foreshore slope; beach cusps; and rip currents.

MR 82-7..Vol. I A122 066
BASCO, D.R., and COLEMAN, R.A., "Surf Zone Currents," Sep. 1982.

Keywords: *Bibliographies; Currents*

This report (Vol. I) and a companion report entitled, "Annotated Bibliography of Surf Zone Currents" (Vol. II) are part of a major new study of coastal currents initiated by the Coastal Engineering Research Center in 1979. The two reports provide a state-of-the-art summary of theories and experiments investigated since 1967. The articles of primary interest in the bibliography discuss analytical theories, laboratory and field experiments, and numerical simulations of near-shore and surf zone currents. Also included are related articles on measurement technology; instrumentation to conduct experiments; and the following subareas: wave thrust (radiation stress), wave setdown and setup, bed shear in oscillatory flow, edge waves, wave breaking, bore theory, and momentum and energy fluxes in the surf zone.

" State of Knowledge"   Vol. I---A122 066

MR 82-8..A125 556
FULLER, J.A., and MEISBURGER, E.P., "A Lightweight Pneumatic Coring Device: Design and Field Test," Sep. 1982.

Keywords: *Coring devices*

A lightweight pneumatic coring device for use from relatively small research vessels was developed and field tested. The device consists of an aluminum frame supporting a core barrel surmounted by a pneumatic industrial vibrator. Tests of a number of paired ball-type and piston-type vibrators revealed that a piston-type vibrator with a 3-inch-diameter piston provided the best penetration and was capable of obtaining cores from 0.6 to 2.4 meters long from a variety of unconsolidated sediments. A description of the tests and drawings of the final design are presented.

MR 82-9..A123 085
WILLIAMS, S.J., and MEISBURGER, E.P., "Geological Character and Mineral Resources of South Central Lake Erie," Oct. 1982.

Keywords: *Beach nourishment; Lake Erie; Presque Isle, PA*

During the summers of 1977 and 1978, a 900-square-kilometer region of southern Lake Erie, between the Ohio-Pennsylvania border and Erie, Pennsylvania, was surveyed, using high resolution seismic reflection equipment and long vibracores, to determine the shallow subbottom geologic character of the lake floor. Emphasis was placed on describing the sediments and identifying deposits of sand and gravel that might be dredged and used as fill for beach nourishment projects on Presque Isle Peninsula.

MR 82-10...A123 087
MEISBURGER, E.P., and WILLIAMS, S.J., "Sand Resources on the Inner Continental Shelf off the Central New Jersey Coast," Oct. 1982.

Keywords: *Geomorphology; ICONS; NJ; Seismic reflection*

About 1800 square kilometers of the central New Jersey inner shelf between Avalon and 7.5 kilometers north of Barnegat Inlet were surveyed to assess and quantify marine sand and gravel resources 6 meters below the sea floor. The primary data consist of 1133 kilometers of high-resolution seismic relfection profiles, limited side-scan sonar coverage, and 97 vibracores, a maximum of 6 meters long. Analyses of the survey data revealed that an estimated 172 million cubic meters of suitable sand is present in 15 different locales. Most of the sand is contained in linear and arcuate shoals that appear to be Holocene to modern in age.

MR 82-11...A123 950
BODGE, K.R., "The Design, Development, and Evaluation of a Differential Pressure Gage Directional Wave Monitor," Oct. 1982.

Keywords: *Analysis, spectral; Gages, wave; Instrumentation; Wave characteristics*

This report discusses a directional wave gage consisting of one absolute and four differential pressure transducers. The differential pressure gage (DPG) development and field testing at the Coastal Engineering Center Field Research Facility pier at Duck, NC, is discussed and data analysis software programs presented. The development of the first nine Fourier directional coefficients from a four-gage pressure sensor array and the first eleven or twenty-one coefficients from a five-gage DPG is discussed. Wave height, period, and directional information as estimated from DPG data is compared with estimates from radar and Baylor gage data at the field evaluation site. Recommendations for future investigations and development of the DPG system are discussed.

MR 82-12...A125 142
DIAZ, R.J., and DeALTERIS, J.T., "Long-Term Changes in Beach Fauna at Duck, North Carolina," Nov. 1982.

Keywords: *Duck, NC; Fauna; Field Research Facility-CERC*

Long-term changes in the beach fauna at Duck, North Carolina, were investigated. Twenty-one stations located on three transects on the oceanside and twenty-four stations located on three transects on the sound side were sampled seasonally from November 1980 to July 1981. The data collected in this study were compared to a previous study conducted in 1976 (Matta, 1977) to investigate the potential effects of the construction of the CERC Field Research Facility pier on the adjacent beaches. No effects on the benthic fauna were found. Changes observed in the benthic macrofauna on the ocean beaches were well within the range attributable to the natural variation of an open coast system. The ocean beach macrofauna was observed to form a single community migrating on and off the beach with the seasons. On the sound beaches, changes were detected in the benthic macrofauna; however, these were attributed to a salinity increase during the 1981 sampling year.

MR 82-13...A123 066
NESTER, R.T., and POE, T.P., "Effects of Beach Nourishment on the Nearshore Environment in Lake Huron at Lexington Harbor (Michigan)," Nov. 1982.

Keywords: *Beach nourishment; Lexington Harbor, MI*

In October 1980 the U.S. Army Corps of Engineers conducted a beach nourishment project at the Lexington (Michigan) Harbor on the southwest shore of Lake Huron, a project designed to mitigate beach erosion attributable to the installation of the harbor. In response to a request from the Coastal Engineering Research Center (CERC), the U.S. Fish and Wildlife Service's Great Lakes Fishery Laboratory conducted a Corps-funded study from June 1980 to October 1981 along a 8.4-kilometer segment of shoreline adjacent to the harbor to determine the effect of

the Corps' beach nourishment project on the nearshore aquatic environment. The study performed by the service included aerial photographic surveys of the study area; measurements of dissolved oxygen, turbidity, and suspended particulate matter levels; and collection of lake bottom sediments, macrozoobenthos, and fish.

MR 82-14..A123 951
NAQVI, S.M., and PULLEN, E.J., "Effects of Beach Nourishment and Borrowing on Marine Organisms," Dec. 1982.

Keywords: *Beach nourishment; Ecology*

This report summarizes the latest research on the effects of beach nourishment and borrowing on the coastal environment. Guidelines are formulated for sampling the beach and nearshore, and recommendations for minimizing the impact of beach nourishment and borrowing are provided.

MR 82-15..A126 565
CARTER, C.H., WILLIAMS, S.J., FULLER, J.A., and MEISBURGER, E.P., "Regional Geology of the Southern Lake Erie (Ohio) Bottom: A Seismic Reflection and Vibracore Study," Dec. 1982.

Keywords: *Coring devices; Geomorphology; ICONS; Lake Erie*

The southern part of the Ohio waters of Lake Erie between Conneaut and Marblehead was surveyed in August of 1977 and 1978 to acquire knowledge of the nature, distribution, and geometry of the lake deposits. Primary data consist of 576 kilometers of seismic reflection trackline profiles and 58 vibracores. About 23 percent of Ohio's part of Lake Erie was covered by the survey.

MR 82-16..A127 066
MILLER, C.H., "CERC Field Research Facility Environmental Data Summary, 1977-79," Dec. 1982

Keywords: *Data Collection; Duck, NC; Field Research Facility-CERC*

This report, the first in a series of annual reports, provides basic data and summaries of the environmental measurements made from 1977 to 1979 at the CERC Field Research Facility (FRF) in Duck, North Carolina. The report covers two complete years, 1978 and 1979, and provides the available data from 1977.

MR 83-1..A127 872
SEELIG, W.N., AHRENS, J.P., and GROSSKOPF, W.G., "The Elevation and Duration of Wave Crests," Jan. 1983.

Keywords: *Wave characteristics; Wave prediction*

The stream-function wave theory of Dean (1974) is used together with monochromatic and irregular laboratory wave data to develop methods for estimating the elevation and duration of wave crests. The resulting

prediction techniques are applied to a wide range of wave conditions measured at CERC's Field Research Facility in Duck, North Carolina, and are shown to give reliable and often conservative estimates of crest elevation. The techniques presented in this report can be used for both nonbreaking and breaking wave conditions.

MR 83-2..A128 080
FORD, J.C., HURME, A.K., and PULLEN, E.J., "An Annotated Bibliography on the Biological effects of Constructing Channels, Jetties, and Other Coastal Structures," Jan. 1983.

Keyword: *Bibliographies*

This bibliography includes 199 historic and recently published research reports for use in evaluating the biological effects of constructing channels, jetties, and other coastal structures on fish and shellfish migration.

MR 83-3..A128 925
REILLY, F.J., and BELLIS, V.J., "The Ecological Impact of Beach Nourishment with Dredged Materials on the Intertidal Zone at Bogue Bank, North Carolina," Mar. 1983.

Keywords: *Beach nourishment; Bogue Bank, NC; Ecology*

During the winter and spring of 1977-78, approximately 1600 meters of high-energy sandy ocean beach at Fort Macon State Park was nourished with sediments dredged from Morehead City State Port Harbor. This report is the result of a 20-month study of the nourished beach and a comparable unnourished beach.

MR 83-4..A127 137
HARRIS, R.L., LEVY, G.F., and PERRY, J.E., "Reevaluation of Vegetational Characteristics at the CERC Field Research Facility, Duck, North Carolina," Mar. 1983.

Keywords: *Duck, NC; Field Research Facility-CERC; Vegetation*

A vegetative study of the U. S. Army Coastal Engineering Research Center's Field Research Facility at Duck, North Carolina, was undertaken from May to December 1981 to determine and document natural or manmade changes which have occurred since Levy's (1976) original study.

MR 83-5..A127 986
MILLER, M.C. "Beach Changes at Holden Beach, North Carolina, 1970-74," Mar. 1983.

Keywords: *Erosion; Holden Beach, NC; Profiles*

Beach profile lines at 21 near-evenly spaced intervals along Holden Beach, North Carolina, between Lockwoods Folly and Shallotte Inlets, were measured from November 1970 to December 1974. These have been

analyzed to determine the spatial and temporal variabilities on long-term, seasonal, and short-term scales.

MR 83-6..A123 551
PEREGRINE, D.H., and JONSSON, I.G., "Interaction of Waves and Currents," Mar. 1983.

Keyword: *Currents*

This report presents an overview of wave-current interaction, including comprehensive review of references to significant U.S. and foreign literature available through December 1981. Specific topics under review are the effects of horizontally and vertically varying currents on waves, wave refraction by currents, dissipation and turbulence, small- and medium-scale currents, caustics and focusing, and wave breaking. The results of the review are examined for engineering applications.

MR 83-7..A127 225
PEREGRINE, D.H., JONSSON, I.G, and GALVIN, C.J., "Annotated Bibliography on Wave-Current Interaction," Mar. 1983.

Keywords: *Bibliographies; Currents*

This annotated bibliography discusses 60 key publications dealing with wave-current interaction. Each entry includes a bibliographic identification, keywords, a discussion of contents, and a statement of coastal engineering significance. An index of the entries by keywords is provided in an appendix.

MR 83-8..A128 051
DAHL, B.E., COTTER, P.C., WESTER, D.B., and DRBAL, D.D., "Posthurricane Survey of Experimental Dunes on Padre Island, Texas," Mar. 1983.

Keywords: *Dunes; Hurricanes; Padre Island, TX; Vegetation*

This report summarizes the impace of Hurricane Allen (August 1980) on dune configuration, sand accretion or erosion, and changes in the vegetation on north Padre Island. Four experimental foredunes, the result of grass plantings from 1969 to 1973, and an unplanted control section were monitored in 1975-77 and also in 1981. The 1981 post-hurricane data were compared where possible, with the previous studies. Foredune elevation surveys were completed in March 1981; accompanying vegetation transects were made in July 1981.

MR 83-9..Not Published

MR 83-10...A130 197
PERLIN, M., and DEAN, R.G., " A Numerical Model to Simulate Sediment Transport with Vicinity of Coastal Structures," May 1983.

Keywords: *Mathematical models; Sediment transport*

This report presents an implicit finite-difference, n-line numerical model to predict bathymetric changes in the vicinity of coastal structures. The wave field transformation includes refraction, shoaling, and diffraction. The model is capable of simulating one or more shore-perpendicular structures, movement of offshore disposal mounds, and beach fill evolution. The structure length and location, sediment properties, equilibrium beach profile, etc., are user specified along with the wave climate.

4. TECHNICAL PAPERS

TP 76-1 ....A027 095

EVERTS, C.H., and MOORE, H.E., "Shoaling Rates and Related Data from Knik Arm Near Anchorage, Alaska," Mar. 1976.

Keywords: *Bulk density; Currents; Harbors; Knik Arm, AK; Shoaling; Tides*

This report discusses sedimentation in coastal waters characterized by high tidal ranges and large concentrations of fine suspended sediment, and the shoaling potential of waters in Knik Arm, near Anchorage, Alaska.

TP 76-2 ....A025 467

WILLIAMS, S.J., "Geomorphology, Shallow Subbottom Structure, and Sediments of the Atlantic Inner Continental Shelf off Long Island, New York," Mar. 1976.

Keywords: *Beach nourishment; Geomorphology; ICONS, Long Island, NY; Seismic reflection*

The Atlantic Inner Continental Shelf off Long Island was surveyed for data on bottom morphology and sediments, subbottom structure, and sand deposits suitable for beach nourishment. Survey data consist of 960 miles of seismic reflection profiles and 152 vibratory cores.

TP 76-3 ....A025 444

MEISBURGER, E.P., "Geomorphology and Sediments of Western Massachusetts Bay," Apr. 1976.

Keywords: *Beach nourishment; Geomorphology; ICONS; Massachusetts Bay, MA; Seismic reflection*

A seismic reflection survey and bottom sampling were conducted in western Massachusetts Bay to obtain data on bottom topography and sediments, subbottom structure and composition, and sand deposits suitable for beach restoration and nourishment. Primary data consisted of 242 miles of seismic reflection surveys and 43 sediment cores.

TP 76-4 ....A028 344

ALLISON, D.M., and SAVAGE, R.P., "Tests of Low-Density Marine Limestone for Use in Breakwaters," May 1976.

Keywords: *Armor units; Breakwaters; New Bern, NC*

A porous, low-density limestone (cemented shell stone) available from a quarry in New Bern, North Carolina, was tested for stability as a rubble-mound armor unit in the large wave tank at CERC. The use of New Bern stone as a cover or underlayers of rubble-mound coastal structures is not recommended.

TP 76-5 .... A026 223
PAWKA, S.S., et al., "Wave Climate at Torrey Pines Beach, California," May 1976.

Keywords: *Gages, wave; Torrey Pines Beach, CA; Wave climatology*

This report presents a study of the wave climate at Torrey Pines Beach, California, using a line array of four pressure sensors which paralleled the coastline at a depth of 10 meters. Data from the array were used to calculate estimates of the frequency-directional spectra of the wave field.

TP 76-6 .... A027 026
LOCHER, F.A., GLOVER, J.R., and NAKATO, T., "Investigation of the Operating Characteristics of the Iowa Sediment Concentration Measuring System," May 1976.

Keywords: *Instrumentation; Sediment transport*

Results of an investigation to evaluate the capabilities and limitations of the Iowa Sediment Concentration Measuring System (ISCMS) are presented. Recommendations for improvement of the ISCMS are also included.

TP 76-7 .... A028 345
CAMMEN, L.M., SENECA, E.D., and COPELAND, B.J., "Animal Colonization of Man-Initiated Salt Marshes on Dredge Spoil," June 1976.

Keywords: *Dredging; Drume Inlet, NC; Erosion; Fauna; Marshes; Snows Cut, NC; Vegetation*

A research study to determine differences in fauna in spoil areas and natural marsh at Drum Inlet and Snow's Cut, North Carolina, is presented. A marked difference in faunal development was found at the sites. Research also showed that planting *Spartina* on dredged material led to the creation of salt marsh which resembled natural marsh.

TP 76-8 .... A029 000
SOLLITT, C.K., and CROSS, R.H., III, "Wave Reflection and Transmission at Permeable Breakwaters," July 1976.

Keywords: *Breakwaters; Reflection, wave; Transmission; Wave*

Results of an investigation to develop a theoretical analysis to account for wave reflection and transmission at permeable breakwaters are presented. The effectiveness of alternative breakwater configurations independent of repetitive experimental programs is compared.

TP 76-9 .... A029 637
BORGMAN, L.E., "Statistical Properties of Fast Fourier Transform Coefficients Computed from Real-Valued, Covariance-Stationary, Period Random Sequences," July 1976.

Keywords: *Analysis, spectral; Fast Fourier transform; Mathematical models; Wave climatology*

A systematic development of the probability properties of fast Fourier transform coefficients is presented as part of an investigation of the statistical precision of ocean wave directional spectra.

TP 76-10...AO29 638
BORGMAN, L.E., "The Statistical Anatomy of Ocean Wave Spectra," July 1976.

Keywords: *Analysis, spectral; Gulf of Mexico, Hurricanes; Wave climatology*

The statistical variations in wave energy spectral estimates for hurricane waves are examined empirically for 12 separate intervals of wave records measured during Hurricane Carla in September 1961. This report gives the analysis for Hurricane Carla and develops certain implications and consequences of the empirical results.

TP 76-11...AO31 814
COLLINS, J.I., and CHESNUTT, C.B., "Grain Shape and Size Distribution Effects in Coastal Models," July 1976.

Keywords: *Longshore bars; Movable-bed modeling; Profiles; Sediment characteristics; Sediment transport*

This study investigates the effects of model sediment-size distribution and particle shape in movable-bed models. An experimental evaluation of the scale model relationship is presented.

TP 76-12...AO29 639
HARRIS, D.L., "Wind-Generated Waves for Laboratory Studies," Aug. 1976.

Keywords: *Wave climatology; Wave tanks*

An investigation of the potential use of a wind-wave research facility for coastal engineering studies is presented. Report reviews earlier studies of wave generation, airflow in tunnels, and early laboratory experiments with wind-wave facilities.

TP 76-13...AO30 169
WEBB, J.W., and DODD, J.D., "Vegetation Establishment and Shoreline Stabilization: Galveston Bay, Texas," Aug. 1976.

Keywords: *East Bay, TX; Fertilizers; Marsh plants; Shore protection; Shoreline stabilization; Transplanting; Vegetation*

Techniques for shoreline stabilization with vegetation and the associated environment are presented. Studies were conducted on the adaptation of species for shoreline stabilization, use of wave-stilling devices, and effects of fertilizers along the north shore of East Bay, Texas.

TP 76-14..A032 115
COX, J.L., "Sampling Variation in Sandy Beach Littoral and Nearshore Meiofauna and Macrofauna," Sept. 1976.

Keywords: *Fauna; Monterey Bay, CA; Sampling analysis*

This study evaluates sampling procedures and statistical methods for analysis of the fauna associated with high-energy sandy beaches. An extensive one-season sampling at a relatively undisturbed beach site in central Monterey Bay, California, was used as a basis for the evaluation.

TP 76-15..A032 684
OLIVER, J.S., and SLATTERY, P.N., "Effects of Dredging and Disposal on Some Benthos at Monterey Bay, California," Oct. 1976.

Keywords: *Dredging; Ecology; Fauna; Monterey Bay, CA; Recolonization rates*

Natural temporal variations in benthic assemblages and substrate stability changes, effects of dredging and disposal of dredged material, subsequent recolonization and recovery, and faunal distribution and reproductive abilities are discussed.

TP 76-16..A033 297
DAVIS, R.A., Jr., "Coastal Changes, Eastern Lake Michigan, 1970-73," Oct. 1976.

Keywords: *Bluffs; Lake levels; Lake Michigan; Profiles*

This study concerns erosion of the bluff or edge of the terrace marking the landward boundary of the beach at 17 sites along a 250-mile segment of the east coast of Lake Michigan.

TP 76-17..A032 183
ADEE, B.H., RICHEY, E.P., and CHRISTENSEN, D.R., "Floating Breakwater Field Assessment Program, Friday Harbor, Washington," Oct. 1976.

Keywords: *Attenuation, wave; Breakwaters; Floating breakwaters; Friday Harbor, WA; Reflection, wave; Transmission, wave*

This study presents (1) a theoretical model for predicting the dynamic behavior of a floating breakwater and (2) a report on a field experiment designed to provide basic data for verifying the model.

TP 76-18..A034 534
PETRAUSKAS, C., "Hydrodynamic Damping and 'Added Mass' for Flexible Offshore Platforms," Oct. 1976.

Keywords: *Added mass; Damping; Offshore platforms; Wave forces*

Dynamic responses of flexible platforms due to wind-generated waves are an important design consideration. This study presents the theoretical and experimental study of hydrodynamic damping and "added mass."

TP 76-19..AO36 896

McCARTNEY, B.L., and AHRENS, J.P., "Overlay of Large, Placed Quarrystone and Boulders to Increase Riprap Stability," Dec. 1976.

Keywords: *Armor units; Oahe Reservoir, SD; Quarrystone; Riprap; Wave forces*

This report describes the wave tank tests and field performance of a single layer of large armor stone used as a protective overlay on underdesigned riprap. The resistance of the overlay to wave attack was determined by small-scale model and prototype-scale wave tank tests at CERC. Design information on a stone overlay concept used to repair a damaged riprap revetment on Oahe Reservoir, South Dakota, is also included.

TP 76-20..AO37 377

O'CONNOR, J.M., NEUMANN, D.A., and SHERK, J.A., Jr., "Lethal Effects of Suspended Sediments on Estuarine Fish," Dec. 1976.

Keywords: *Fauna; Fish; Mineral solids; Patuxent River, MD; Sediment transport*

This study provides base-line information for preproject decision-making based on the anticipated concentration of suspended sediments at the project site and the effect of various lengths of exposure on estuarine fish of different life-history stages and habitat preference.

TP 77-1..AO37 378

DeWALL, A.E., PRITCHETT, P.C., and GALVIN, C.J., Jr., "Beach Changes Caused by the Atlantic Coast Storm of 17 December 1970," Jan. 1977.

Keywords: *Atlantic City, NJ; Beach Evaluation Program-CERC; Cape Cod, MA; Erosion; Jones Beach, NY; Long Beach Island, NJ; Ludlum Island, NJ; Misquanicut, RI; Profiles; Tides; Westhampton Beach, NY*

This report describes measured beach changes at selected localities along the Atlantic coast, from North Carolina to New England, which resulted from a storm of moderate intensity on 17 December 1970. As part of the CERC Beach Evaluation Program (BEP), 91 beach profile lines at seven localities between Cape Cod, Massachusetts, and Cape May, New Jersey, were surveyed before and after the storm.

TP 77-2..AO38 282

SEELIG, W.N., "Stilling Well Design for Accurate Water Level Measurement," Jan. 1977.

Keywords: *Damping; Instrumentation; Stilling well*

A method is presented for the design of stilling wells based on the work by Noye (1974). A step-by-step procedure is outlined, design curves are presented, and an example is given to illustrate the procedures.

TP 77-3..AO40 646
O'CONNOR, J.M., NEUMANN, D.A., and SHERK, J.A., Jr., "Sublethal Effects of Suspended Sediments on Estuarine Fish," Feb. 1977.

Keywords: *Ecology; Fish; Patuxent River, MD*

The objective of this study was to determine the effect, if any, of sublethal concentrations of suspended materials on the fish in estuarine systems. The suspensions were of natural sediment, obtained from the Patuxent River estuary, Maryland, or commercially available fuller's earth.

TP 77-4..AO41 945
MacDONALD, T.C., "Sediment Suspension and Turbulence in an Oscillating Flume," Apr. 1977.

Keywords: *Fall velocity; Sediment transport*

In 65 experiments with one lightweight sediment, suspended-sediment concentration was linear with elevation, except near the bottom, as found by others. In limited experiments with different fall velocities, the slope of the concentration distribution became more negative as fall velocity increased. Root-mean-square (rms) velocity fluctuations were also measured.

TP 77-5..AO42 061
FAIRCHILD, J.C., "Suspended Sediment in the Littoral Zone at Ventnor, New Jersey, and Nags Head, North Carolina," May 1977.

Keywords: *Nags Head, NC; Sediment transport; Ventnor, NJ*

This study examines data on sediment suspensions in and near the surf zone at Nags Head, North Carolina, and at Ventnor, New Jersey, using a tractor-mounted pump sampler. The study was conducted to determine the characteristics of such suspensions and to judge the relative importance of sediment suspensions to the total littoral transport.

TP 77-6..AO42 748
HOBSON, R.D., "Review of Design Elements for Beach-Fill Evaluation," June 1977.

Keywords: *Beach nourishment*

This study provides a summary and review of the following topics on beach nourishment--one engineering alternative for combating coastal erosion and providing shore protection against storm-produced waves and flooding: (a) analyzing and characterizing sediments, (b) sampling beaches and borrow sites, (c) calculating composite grain-size distributions, and (d) use of existing beach-fill schemes. State of the art recommendations relating to these topics are also provided.

TP 77-7..A044 066
ESTEVA, D.C., "Evaluation of the Computation of Wave Direction with Three-Gage Arrays," July 1977.

Keywords: *Gages, wave; Pt. Mugu, CA*

A description of the collection and analyses of data obtained with an array of five pressure sensors near Pt. Mugu, California, is presented. The 10 three-gage arrays possible with five gages are used to compare redundant values of the direction of wave propagations. The dependence of directional determination on array orientation relative to incident wave direction and wavelength at the array site is revealed by calculations based on simulated narrow-banded wave trains.

TP 77-8..A044 074
SEELIG, W.N., and SORENSEN, R.M., "Hydraulics of Great Lakes Inlets," July 1977.

Keywords: *Great Lakes; Inlets; Pentwater Harbor, MI; Seiching*

Field measurements were conducted in 1974-75 at nine harbors on the Great Lakes to investigate the nature of long-wave excitation and the generating mechanism for significant inlet velocities, establish techniques for predicting inlet-bay system response, and develop base data for future planning and design studies. Examples to demonstrate use of the concepts and techniques developed in the study are applied to the design of a new inlet channel and to the modification of an existing channel.

TP 77-9..A047 362
HALLERMEIER, R.J., "Calculating a Yearly Limit Depth to the Active Beach Profile," Sept. 1977.

Keywords: *Profiles; Sediment transport; Wave climatology*

A sediment entrainment parameter is used to calculate the maximum water depth for intense agitation of a sand bed by shoaling waves with given height and period. Calculated depths agree with measured water depths over a terrace cut into a fine sand slope by constant laboratory waves. For high wave conditions expected 12 hours per year on exposed U.S. coasts, the calculated depth is about twice the wave height.

TP 77-10...A047 608
DeWALL, A.E., "Littoral Environment Observations and Beach Changes Along the Southeast Florida Coast," Oct. 1977.

Keywords: *Beach Evaluation Program-CERC; Boca Raton, FL; Currents; Hollywood, FL; Jupiter, FL; LEO; Profiles; Wave climatology*

This report presents an analysis of a series of beach profile surveys and littoral environment observations collected during a 4-1/2-year study at three sites on the southeast Florida coast.

TP 77-11 .... AD46 551

BOWIE, G.L., "Forces Exerted by Waves on a Pipeline at or Near the Ocean Bottom," Oct. 1977.

Keywords: *Drag forces; Lift forces; Pipelines; Wave forces*

This report presents an analysis of wave-induced forces on a submarine pipeline near the ocean floor. The wave-induced forces consist of several components--inertial forces, drag forces, lift forces, and under some conditions, eddy-induced forces.

TP 77-12 .... AD48 747

CAMFIELD, F.E., "Wind-Wave Propagation Over Flooded, Vegetated Land," Oct. 1977.

Keywords: *Wave characteristics*

This report describes a method for estimating wind-wave growth and decay over flooded areas where there is a major friction effect because of dense vegetation. These technical guidelines are an extension of the procedures given in the Shore Protection Manual (SPM) (1977) which limits the design curves to waves passing over a sandy bottom.

TP 77-13 .... AD49 977

REID, R.O., VASTANO, A.C., and REID, T.J., "Development of Surge II Program with Application to the Sabine-Calcasieu Area for Hurricane Carla and Design Hurricanes," Nov. 1977.

Keywords: *Hurricanes; Mathematical models; Storm surge; SURGE II computer program*

SURGE II is a program for calculation of storm surges and tides in a bay or estuary of the type where frictional resistance dominates over Coriolis force. It includes the provision for subgrid scale barriers and channels as well as allowing for overtopping of barriers and flooding of and recession from normally dry regions adjoining the bay or estuary. The theory and numerical algorithm are discussed in detail. A user's guide for the program is also provided. Application of the program, in respect to astronomical tides and hurricane surges, is made for the Sabine-Calcasieu region which straddles the Texas and Louisiana boundary.

TP 78-1 .... AD55 409

HALLERMEIER, R.J., and RAY, R.E., "Wave Transformation at Isolated Vertical Piles in Shallow Water," Mar. 1978.

Keywords: *Piles; Runup, wave; Wave forces; Wave transformation*

This report presents the results of a laboratory investigation of wave height measurements at an isolated pile. The investigation was motivated by the possibility that wave transformation near a pile can be used to measure nearshore wave directions. The tests were conducted in relatively shallow water with relatively steep waves; the test piles have small cross sections compared to wavelength.

TP 78-2..A055 562
STOA, P.N., "Reanalysis of Wave Runup on Structures and Beaches," Mar. 1978.

Keywords: *Armor units; Quarrystone; Runup wave*

Published and unpublished results of tests of monochromatic wave runup were reanalyzed for both smooth and rough structure surfaces. The rough-surfaced structures included breakwaters and riprapped slopes, and both quarrystone and concrete armor units. Wave runup theory is discussed briefly, and an empirical equation is given for runup on smooth slopes from waves which break on the structure slope. Example problems and methods of data analysis, together with general observations, are given.

TP 78-3..A056 198
GILES, M.L., and SORENSEN, R.M., "Prototype Scale Mooring Load and Transmission Tests for a Floating Tire Breakwater," Apr. 1978.

Keywords: *Attenuation, wave; Breakwaters; Floating breakwaters; Mooring forces; Tires; Transmission, wave*

Prototype scale tests of the mooring load and wave transmission characteristics of a floating tire breakwater were conducted in the large wave tank at the Coastal Engineering Research Center. Standard Goodyear Tire and Rubber Company 18-tire modules connected to form breakwaters, 4 and 6 modules (8.5 and 12.8 meters, 28 and 42 feet) wide in the direction of wave advance, were tested in water depths of 2 and 4 meters (6.56 and 13.12 feet). Monochromatic waves with a 2.64- to 8.25-second period range and heights up to 1.4 meters (4.6 feet) were used in the tests.

TP 78-4..A055 876
EVERTS, C.H., "Geometry of Profiles Across Inner Continental Shelves of the Atlantic and Gulf Coasts of the United States," Apr. 1978.

Keywords: *Atlantic coast; Beach Evaluation Program-CERC; Gulf coast; Inner Continental Shelf; Profiles*

Along most of the U.S. east and gulf coasts, bottom profiles extending over the Inner Continental Shelves normal from the coast display a characteristic two-sector shape. Near the coast, the *shoreface* profile sector is steep and concave-up; the seaward *ramp* sector is planar with a gradual slope away from the coast. As part of the Beach Evaluation Program (BEP) at the Coastal Engineering Research Center, 9 profiles extending from the coast 30.5 kilometers (19 miles) seaward at each of 49 localities were averaged to mathematically characterize the profiles and to develop and test criteria for discriminating among groups of profiles. Localities were selected along straight coastal reaches away from inlets and estuaries in areas where the bottom consisted of unconsolidated sediments.

TP 78-5..A060 907
LOFQUIST, K.E.B., "Sand Ripple Growth in an Oscillatory-Flow Water Tunnel," Aug. 1978.

Keywords: *Bed forms; Profiles; Quartz sand; Ripples; Sand ripples; Sediment transport*

The development of sand ripples in an oscillatory-flow water tunnel was observed in 104 laboratory experiments approximating conditions at the seabed under steady progressive surface waves. The period, T , and amplitude, a , of the water motion were varied over wide ranges. Three quartz sands were used, with mean grain diameters D = 0.55 , 0.12 , and 0.18 millimeter. In 24 experiments, with the bed initially leveled, T was reduced until ripples appeared, and their development to final equilibrium form was observed without further change in T . The remaining 80 experiments investigated the response of previously established bed forms to changes in T or a or both.

TP 79-1..A072 524
GALVIN, C.J., "Relation Between Immersed Weight and Volume Rates of Longshore Transport," May 1979.

Keywords: *Longshore energy flux; Sediment transport*

As presently used, the immersed weight rate, I_ℓ , is the volume rate, Q , of longshore transport, multiplied by a constant. For use in engineering problems, I_ℓ must be converted back to the equivalent Q . The I_ℓ formulation may be important where the unit weight of sand differs significantly from the unit weight of sand at the open-coast sites contributing data to the design curve. This report is published to show the relation between two versions of the energy flux method of predicting longshore transport: The volume rate prediction recommended in the Shore Protection Manual (SPM) (1977), and the immersed weight rate prediction proposed in other publications.

TP 79-2..A074 022
FIELD, M.E., "Sediments, Shallow Subbottom Structure, and Sand Resources of the Inner Continental Shelf, Central Delmarva Peninsula," June 1979.

Keywords: *Delmarva Peninsula; Geomorphology; ICONS; Inner Continental Shelf; Seismic reflection*

A data base consisting of high-resolution seismic reflection, bathymetric, and side-scan sonar profilings was obtained in 1970 and 1974, along with vibratory cores and onshore borings. These data were analyzed to assess the resource potential of sand suitable for use in beach restoration and to establish the Quaternary evolutionary framework of the northern Delmarva inner shelf.

TP 79-3..A076 974
MEISBURGER, E.P., "Reconnaissance Geology of the Inner Continental Shelf, Cape Fear Region, North Carolina," Sept. 1979.

Keywords: *Beach nourishment; Cape Fear, NC; ICONS; Inner Continental Shelf*

The Inner Continental Shelf off the North Carolina coast between the South Carolina border and Cape Lookout, North Carolina, was surveyed to obtain information on bottom and subbottom sediment deposits and structures. The location and the extent of deposits of sand suitable for restoration and nourishment of nearby beaches were investigated.

TP 79-4..A081 863
HANDS, E.B., Changes in Rates of Shore Retreat, Lake Michigan, 1967-76," Dec. 1979.

Keywords: *Great Lakes; Lake levels; Lake Michigan; Profiles; Submergence*

This report provides information on rates of shoreline recession and on changes in these rates during recent high water levels on the Great Lakes. A graphic summary of field data is presented to estimate effects of future lake level changes in similar coastal environments. Qualitative guidance is provided on how and when these estimates should be adjusted to reflect differences in environmental settings.

TP 80-1..A084 186
SCHWARTZ, R.K., and MUSIALOWSKI, F.R., "Transport of Dredged Sediment Placed in the Nearshore Zone--*Currituck* Sand-Bypass Study (Phase I)," Feb. 1980.

Keywords: *Beach nourishment; New River Inlet, NC; Sand bypassing; Sediment transport*

During 1976, 26,750 cubic meters of relatively coarse sediment was dredged from New River Inlet, North Carolina, moved downcoast by a split-hull barge, the *Currituck*, and placed in a 215-meter coastal reach between the 2- and 4-meter depth contours. Bathymetric changes on the disposal piles and in the adjacent beach and nearshore area were studied to determine the modification of the surrounding beach and nearshore profile, and the net transport direction of the disposal sediment.

TP 80-2..A083 239
THOMPSON, E.F., "Energy Spectra in Shallow U.S. Coastal Waters," Feb. 1980.

Keywords: *Analysis, spectral; Gaves, wave; Wave characteristics*

This report provides coastal engineers and researchers with wave energy spectra and spectral parameters for nine shallow-water gage locations along the U.S. Atlantic, Pacific, gulf, and Great Lakes coasts (Atlantic City, Virginia Beach, Nags Head, Lake Worth, Naples, Pt. Mugu, Huntington Beach, Presque Isle, and Michigan City). Insight is also provided on the physical meaning of shallow-water spectra, which are becoming increasingly important in coastal engineering work.

TP 80-3 .... AD91 174
SEELIG, W.N., and AHRENS, J.P., "Estimating Nearshore Conditions for Irregular Waves," June 1980.

Keywords: *Refraction, wave; Wave climatology*

Methods for estimating nearshore irregular wave conditions for continuously shallowing bottom contours, given the bottom slope and offshore wave characteristics, are presented. A sensitivity analysis is performed to show the influence of various input parameters on predicted nearshore significant wave height. The methods are applied to the nearshore region at CERC's Field Research Facility, Duck, North Carolina; results are compared to observed nearshore wave height changes measured at the facility.

TP 80-4 .... AD87 932
GALVIN, C., and SCHWEPPE, C.R., "The SPM Energy Flux Method for Predicting Longshore Transport Rate," June 1980.

Keywords: *Longshore energy flux; Sediment transport; Wave climatology*

This report explains in detail the energy flux method in Section 4.532 of the Shore Protection Manual (SPM) (1977). Appendix A describes the derivation of four energy flux factors. Appendix B explains how the significant wave height enters these equations. Appendix C identifies the data that led to the prediction of longshore transport rate from the energy flux factor. The importance of the correct formulation of breaker speed, and its effect on estimates of breaker angle, are demonstrated. The report describes the steps used to arrive at the energy flux method, but it does not critically analyze those steps.

TP 80-5 .... AD92 110
KNUTSON, P.L., "Experimental Dune Restoration and Stabilization, Nauset Beach, Cape Cod, Massachusetts," Aug. 1980.

Keywords: *Cape Cod, MA; Dunes; Fences, sand; Nauset Beach, MA; Vegetation; Dunes*

In April 1970, experimental plots were established on a baymouth bar at Nauset Harbor on Cape Cod, Massachusetts. On the bar both sand fences and American beachgrass (*Ammophila breviligulata*) were tested as alternative techniques for creating and stabilizing dunes. Elevational profiles were made periodically in the test plots from April 1970 to November 1977.

TP 80-6 .... AD91 731
EVERTS, C.H., "A Method to Predict the Stable Geometry of a Channel Connecting an Enclosed Harbor and Navigable Waters," Aug. 1980.

Keywords: *Harbors; Sediments transport; Tidal inlets*

A desirable design criterion for an enclosed harbor is that the channel connecting it with navigable waters be self-maintaining. This

condition will prevail where sediment movement is negligible, or in the case of moving sediment, where tidal or river discharge is sufficient to maintain acceptable channel dimensions. A method to predict the stable configuration of such a channel is presented in this paper. A relationship between stable channel cross-sectional area, cross-sectional shape, and bottom elevation of the channel and the water discharge through the channel is determined using the geometric characteristics of nearby natural channels and the hydraulic regimes that sustain those channels.

TP 80-7...A098 531
HANDS, E.B., "Prediction of Shore Retreat and Nearshore Profile Adjustments to Rising Water Levels on the Great Lakes," Oct. 1980.

Keywords: *Great Lakes; Lake levels; Lake Michigan; Profiles*

This report provides coastal engineers with documentation that a wide zone of nearshore bathymetry responds to long-term increases in water level by migrating inland with the receding shoreline. The dimensions of the zone affected depend on the wave exposure. A simple procedure is presented for estimating the magnitude of shore recession and the depth of profile adjustment for any sandy stretch of shore on the U.S. side of the Great Lakes.

TP 80-8...A098 483
GROSSKOPF, W.G., "Calculation of Wave Attenuation Due to Friction and Shoaling: An Evaluation," Oct. 1980.

Keywords: *Attenuation, wave; Shoaling; Wave climatology*

An evaluation of the Bretschneider and Reid (1954) technique for calculating wave attenuation due to friction and shoaling is presented. Data used in this evaluation were collected at CERC's Field Research Facility (FRF), Duck, North Carolina. The results, using Kamphuis' friction factor diagram, show slightly underpredicted wave heights with an average deviation of 6 percent. Poor correlation with observed wave heights is illustrated when bottom contours are not straight and parallel, indicating the presence of other mechanisms.

TP 81-1...A101 879
SEELIG, W.N., and AHRENS, J.P., "Estimation of Wave Reflection and Energy Dissipation Coefficients for Beaches, Revetments, and Breakwaters," Feb. 1981.

Keywords: *Reflection, wave; Wave energy*

More than 4,000 laboratory measurements of wave reflection from beaches, revetments, and breakwaters are used to develop methods for predicting wave reflection and energy dissipation coefficients. Both monochromatic and irregular wave conditions are considered and the prediction techniques apply to both breaking and nonbreaking wave conditions.

TP 81-2..A101 856
BRUNO, R.O., et al., "Longshore Sand Transport Study at Channel Islands Harbor, California," Apr. 1981.

Keywords: *Breakwaters; Channel Islands; Harbor, CA; Longshore energy flux; Sediment transport*

This report provides an updated method for prediction of sand transport along beaches (littoral drift) obtained in a 2-year study at Channel Islands Harbor, California. Measurements were made by two near-bottom-mounted pressure transducers and by visual observations to determine correlations between wave characteristics and longshore sediment transport.

TP 81-3..A104 082
WILLIAMS, S.J., "Sand Resources and Geological Character of Long Island Sound," May 1981.

Keywords: *Beach nourishment; Geomorphology; ICONS; Long Island Sound*

Long Island Sound, covering almost 3,400 square kilometers of the region between Long Island, New York, and the Connecticut mainland, was studied using 700 kilometers of high-resolution seismic profiles and 75 vibratory cores to determine the geologic character and Quaternary history and evolution of the Sound, as well as to assess the resource potential of sand and gravel in sea-floor deposits.

TP 81-4..--------
EVERTS, C.H., and WILSON, D.C., "Base Map Analysis of Coastal Changes in Aerial Photography," Nov. 1981.

Keywords: *Aerial photography; Shore processes*

This report presents a method for obtaining shoreline change data from base maps constructed from time-sequence sets of aerial photos, with the image of the aerial photos superimposed at the constant scale of each base map. A comparison of each base map from the different sets of aerial photos will provide shoreline change data through time.

TP 81-5..A115 220
AHRENS, J.P., "Design of Riprap Revetments for Protection Against Wave Attack," Dec. 1981.

Keywords: *Armor units; Revetments; Riprap; Runup, wave*

Basic information on the design of riprap revetments for protection against wave attack is presented. The topics covered include the selection of armor and filter layer, zero damage and reserve stability, design wave height, wave runup, and the use of armor overlays. Example problems are worked to illustrate the concepts presented.

TP 82-1..A119 985
MATTIE, M.G., "Empirical Guidelines for Use of Irregular Wave Model to Estimate Nearshore Wave Height," Jul. 1982.

Keywords: *Irregular waves; Wave climatology*

An irregular wave technique based on a method developed by Goda (1975) and the Shore Protection Manual (1977) method for predicting nearshore wave height are compared with wave gage measurements from the CERC Field Research Facility. The SPM method is a classical monochromatic approach, while the irregular wave technique attempts to represent the actual distribution of ocean waves. These two techniques have certain limitations and ranges of applicability. Comparisons with field data will better define the limits and proper use for these techniques. The performance of the models is evaluated for a variety of wave conditions and water depths.

TP 82-2..A119 990
WALTON, T.L., and DEAN, R.G., "Computer Algorithm to Calculate Longshore Energy Flux and Wave Direction from a Two Pressure Sensor Array," Aug. 1982.

Keywords: *Longshore energy flux; Mathematical models; Wave climatology*

A documented (FORTRAN IV) computer program is discussed as originally written for the CERC Longshore Sand Transport Research Program to analyze wave data collected at Channel Islands Harbor, California. The program performs the basic analysis of two wave gage pressure records necessary to compute wave direction and wave energy at a given frequency and computes the longshore energy flux used in sand transport for the entire energy spectrum of the wave record. This program uses linear wave theory for the wave transformation process and includes the assumption of straight and parallel bottom contours necessary for application of Snell's law of refraction.

TP 82-3..A122 069
BRODERICK, L.L., and AHRENS, J.P., "Riprap Stability Scale Effects", Aug. 1982.

Keywords: *Riprap; Scale effects*

This report is based on small-scale tests of riprap stability which replicate previous tests conducted in the large wave tank at the Coastal Engineering Reserach Center (CERC). The large wave tank tests used wave heights which exceeded 5 feet in some instances and can be regarded as prototype scale. Scale effects were approximately 20 percent at the zero-damage level, and the small-scale tests gave more conservative estimates of zero-damage wave heights and wave runups than those predicted from prototype test values. However, for severe levels of damage, the differences between small scale and prototype were not so great. When profile surveys of severely damaged riprap were compared, the small-scale and prototype profiles were found to have similar shapes. Wave period was also found to have less influence on the zero-damage wave heights in the small-scale tests than in the prototype tests.

TP 82-4..A125 142

HARMS, V.W., WESTERINK, J.J., SORENSEN, R.M., and McTAMANY, J.E., "Wave Transmission and Mooring-Force Characteristics of Pipe-Tire Floating Breakwaters," Oct. 1982.

Keywords: *Floating breakwaters; Mooring forces; Tires; Transmission, wave*

Wave transmission and mooring-load features were tested for a floating breakwater created from massive cylindrical members (steel or concrete pipes, telephone poles, etc.) in a matrix of scrap truck or automobile tires. The Pipe-Tire Breakwater (PT-Breakwater) was tested at prototype scale. Test results are compared with those of earlier experiments made on the Goodyear floating tire breakwater. The construction of these PT-Breakwater modules is outlined, along with the cost estimates for construction of components. A breakwaer buoyancy test was made and the flotation requirements calculated. The influence of stiffness on the mooring system was experimentally investigated and conveyor-belt material tested to the point of failure. Design curves for determining the proper anchor requirements and breakwater size are given.

TP 83-1..A127 868

HANDS, E.B., "Forcing Regression Through a Given Point Using Any Familiar Computational Routine," Mar. 1983.

Keywords: *Mathematical models*

This report describes a simple method for obtaining the prediction equation best fit to all data points (in the least squares sense) while forcing an exact fit at any known point. The desicision to constrain the solution at a point should be justified on theoretical grounds without appeal to data. Examples are given. When required, any familiar regression program can be forced to select the best line through a given point by simply adjusting and extending the data entry. All necessary changes to the program results (test statistics and estimates of regression parameters) can be accomplished without modifying the computer program.

CDM 76-1..A027 098

SEELIG, W.N., "A Simplified Method for Determining Vertical Breakwater Crest Elevation Considering Wave Height Transmitted by Overtopping," May 1976.

Keywords: *Breakwaters; Overtopping, wave; Transmission, wave*

A method is presented for the design of vertical-faced breakwaters for wave transmission by overtopping based on laboratory experiments of Goda, Takeda, and Moriya (1967) and Goda (1969). A step-by-step procedure is outlined, design curves are presented, and examples worked to illustrate the procedure.

CETA 77-1...A046 822

SEELIG, W.N., "A Simple Computer Model for Evaluating Coastal Inlet Hydraulics," July 1977.

Keywords: *Mathematical models; Tidal inlets*

A computer program for the prediction of coastal inlet velocities, discharge, and bay level fluctuations is presented. Two examples are given to demonstrate the numerical model. The computer documentation is included as an appendix.

CETA 77-2...A044 107

AHRENS, J., "Prediction of Irregular Wave Runup," July 1977.

Keywords: *Runup, wave*

A technique is described for estimating the runup distribution of wind-generated waves, extending the method of runup prediction for waves of constant height and period presented in the Shore Protection Manual (SPM) (1977). A method of correcting runup for slope roughness and porosity, which is easier to apply than the SPM method, is also presented.

CETA 77-3...A046 547

KNUTSON, P.L., "Planting Guidelines for Marsh Development and Bank Stabilization," Aug. 1977.

Keyword: *Vegetation*

Marsh plants are effective in stabilizing eroding banks in many sheltered coastal areas. The report provides guidelines for (1) selecting plants and planting methods, (2) determining seed application rate and plant spacing, (3) determining fertilization requirements, and (4) estimating labor cost.

CETA 77-4...A046 170

KNUTSON, P.L., "Planting Guidelines for Dune Creation and Stabilization," Sept. 1977.

Keyword: *Vegetation*

Beach grasses have been used successfully in many coastal projects to form and stabilize dune systems as natural barriers to the inland penetration of waves and storm surges. This report provides guidelines for (1) selecting plants and planting methods; (2) obtaining plants; (3) storing, planting, and maintaining plants; and (4) estimating labor requirements.

CETA 77-5...A047 358
LESNIK, J.R., "Wave Setup on a Sloping Beach," Sept. 1977.

Keywords: *Wave setup*

This report combines the material previously presented in Sections 2.62 and 3.85 of the Shore Protection Manual (SPM) (1977). Computation of wave setup on beaches as steep as 1 on 10 (m = 0.01) can be easily determined by graphical means when incident wave conditions are defined. Practical applications are discussed and two example problems are provided.

CETA 77-6...A047 828
CAMFIELD, F.E., "A Method for Estimating Wind-Wave Growth and Decay in Shallow Water with High Values of Bottom Friction," Oct. 1977.

Keywords: *Attenuation, wave; Vegetation; Wave characteristics; Wind*

Report describes a method for estimating wind-wave growth and decay over flooded areas where there is a major friction effect because of dense vegetation. These technical guidelines are an extension of the procedures given in the Shore Protection Manual (SPM) which limit the design curves to waves passing over a sandy bottom.

CETA 77-7...A049 880
AHRENS, J., "Prediction of Irregular Wave Overtopping," Dec. 1977.

Keywords: *Irregular waves; Overtopping, wave; Runup, wave*

A proposed technique is described for predicting overtopping rates for structures exposed to irregular wind-generated waves by extending the method of predicting overtopping for waves of constant height and period presented in the Shore Protection Manual (SPM) (1977).

CETA 77-8...A049 881
SORENSEN, R.M., "Procedures for Preliminary Analysis of Tidal Inlet Hydraulics and Stability," Dec. 1977.

Keywords: *Currents; Tidal inlets*

This report summarizes procedures for calculating the maximum tidal inlet channel velocity during a tidal cycle as well as the bay tidal range and phase lag (published by King, 1974). Guidance for the application of these procedures to solve tidal inlet design problems for jettied inlets is also presented.

CETA 78-1..A053 173

CAMFIELD, F.E., "Acceleration and Impact of Structures Moved by Tsuanmis or Flash Floods," Feb. 1978

Keywords: *Flash floods; Impact forces; Tsunamis*

Techniques are given for determining the velocity of a structure moved by a tsunami or flash flood and impact forces with another structure. Solutions can be obtained for velocity and impact force as a function of the initial distance between the structures and the velocity of the surging water.

CETA 78-2..A058 407

STOA, P.N., "Revised Wave Runup Curves for Smooth Slopes," July 1978.

Keywords: *Runup, wave*

Results of previous tests of monochromatic wave runup on smooth structure slopes were reanalyzed. The runup results for both breaking and nonbreaking waves are presented in a set of curves similar to but revised from those in the Shore Protection Manual (SPM) (1977). The curves are for structure slopes fronted by horizontal and 1-on-10 bottom slopes. The range of values of d_s/H_o was extended to $d_s/H_o = 8$; relative depth (d_s/H_o) is important even for $d_s/H_o > 3$ for waves which do not break on the structure slope. A flow chart is given to assist in choosing the proper figure and interpreting the results when applied to untested bottom slopes (i.e., bottom slopes flatter than 1 on 10). Also given are example problems and a curve for scale-effect corrections.

CETA 79-1..A073 354

STOA, P.N., "Wave Runup on Rough Slopes," July 1979.

Keywords: *Runup, wave*

This report presents a method of estimating wave runup on coastal structures with rough surfaces and is a companion report to CETA 78-2. The report is based principally on analyses of laboratory experiments as discussed in TP 78-2.

CETA 79-2..A072 469

WEGGEL, J.R., "A Method for Estimating Long-Term Erosion Rates from a Long-Term Rise in Water Level," May 1979.

Keywords: *Erosion; Profiles; Sediment transport*

This report presents a method for estimating long-term erosion rates resulting from a rise in sea level, based on Bruun's (1962) method with an exponential curve fitted to the offshore beach profile. The method is approximate and is intended to supplement conventional analyses of historical profile and shoreline changes rather than to supplant such analyses.

CETA 79-3..A077 070
HURME, A.K., YANCEY, R.M., and PULLEN, E.J., "Sampling Macroinvertebrates on High-Energy Sand Beaches," Sept. 1979.

Keywords: *Macroinvertebrates; Sampling analysis*

This report summarizes the most practical and cost-effective techniques developed from CERC-sponsored research and the literature for quantitatively sampling high-energy sand beach macroinvertebrates. The general habitat, the field crew's qualifications and duties, and the materials and equipment are described. A general approach to planning the fieldwork, timing the trips, and developing a sampling plan is given. Methods for taking, transferring, and preserving samples for laboratory analysis are described. Sample treatment, population analysis, cost and manpower requirements are discussed.

CETA 79-4..A077 905
GILES, M.L., and ECKERT, J.W., "Determination of Mooring Load and Transmitted Wave Height for a Floating Tire Breakwater," Sept. 1979.

Keywords: *Breakwaters; Floating breakwaters; Mooring forces; Transmission, wave; Wave climatology*

Methods are presented for predicting the transmitted wave height, as well as for determining the anchor loading for the Goodyear module floating tire breakwater (FTB). These methods are based on laboratory tests that used full-scale monochromatic wave conditions typical of partially sheltered bodies of water. Design curves and procedures are presented for determining the breakwater width required to obtain a desired degree of wave attenuation, and for determining the mooring loads for each anchor line. Various anchor types are discussed to aid in the design of an anchor system.

CETA 79-5..A077 906
SEELIG, W.N., "Estimating Nearshore Significant Wave Height for Irregular Waves," Oct. 1979.

Keywords: *Irregular waves; Mathematical models*

Design curves for predicting nearshore significant wave height for irregular wave conditions, given deepwater wave conditions and the nearshore bottom slope, are presented. Examples of the curves used are given. The design curves were developed using the analytical model of Goda (1975).

CETA 79-6..A079 801
SEELIG, W.N., "Estimation of Wave Transmission Coefficients for Permeable Breakwaters," Oct. 1979.

Keywords: *Breakwaters; Transmission, wave*

This report describes a method for predicting wave transmission

coefficients for permeable breakwaters using a transmission by overtopping equation together with an analytical model. This technique has been tested with physical model results for nonbreaking and some breaking waves, for monochromatic and irregular wave conditions, and for riprap and some concrete armor unit breakwaters. The technique was found to give useful predictions of transmission coefficients for design.

CETA 79-7...A080-983
HOBSON, R.D., "Definition and Use of the Phi Grade Scale," Nov. 1979.

Keywords: *Phi grade scale; Sediment characteristics*

This report describes the phi grade scale and how it can be used to classify and analyze sediment texture.

CETA 80-1...A084 222
SEELIG, W.N., "Maximum Wave Heights and Critical Water Depths for Irregular Waves in the Surf Zone," Feb. 1980.

Keywords: *Irregular waves; Wave climatology*

The nearshore irregular wave deformation model of Goda (1975) is used to develop prediction curves for the magnitude and location of peak wave heights in the surf zone as a function of profile slope and offshore wave steepness. An example that demonstrates the use of these curves is presented.

CETA 80-2...A085 592
PHILLIPS, R.C., "Planting Guidelines for Seagrasses," Feb. 1980.

Keywords: *Erosion; Vegetation*

An intensive review was made of the historical and present work on transplanting seagrasses, including eelgrass, turtle grass, shoalgrass, manatee grass, and ditch grass. The best seasons, recommended methods of transplanting, and propagules to use for each species are listed for the U.S. coasts. Some of the more important environmental parameters which directly influence successful transplanting are reviewed.

CETA 80-3...A085 526
WALTON, T.L., Jr., "Computation of Longshore Energy Flux Using LEO Current Observations," Mar. 1980.

Keywords: *Currents; LEO; Longshore energy flux*

A computational technique is presented for the longshore energy flux factor, $P_{\ell s}$, using current observations from the Littoral Environment Observation (LEO) program. Chapter 4 of the Shore Protection Manual (SPM) (1977) gives various equations for $P_{\ell s}$ as a function of wave height, wave period, and breaking wave angle. The present report details how $P_{\ell s}$ can be calculated using longshore current and breaking wave height data only.

CETA 80-4...A087 260
PRINS, D.A., "Data Collection Methods for Sand Inventory-Type Surveys," Mar. 1980.

Keywords: *Continental Shelf; Data collection; Icons*

Shallow areas of the Continental Shelf have been found to be a potential source of suitable sand for beach fill. This report describes the techniques and methods used in planning and implementation of the data collection effort to locate and delineate this source.

CETA 80-5...A089 624
THOMPSON, E.F., "Interpretation of Wave Energy Spectra," July 1980.

Keywords: *Analysis, spectral; Gages, wave; Wave climatology*

Guidelines for interpreting nondirectional wave energy spectra are presented. A simple method is given for using the spectrum to estimate a significant height and period for each major wave train in most sea states. The method allows a more detailed and accurate description of ocean surface waves than that given by a single significant height and period, yet it eliminates much of the formidable detail of a full spectrum. An example problem illustrating application of the method is presented. Spectral analysis and display techniques and the natural variation of spectra in space and time are discussed.

CETA 80-6...A087 261
VITALE, P., "A Guide for Estimating Longshore Transport Rate Using Four SPM Methods," Apr. 1980.

Keywords: *Sediment transport*

This report is a guide for computing longshore transport rate. Step-by-step procedures are presented as a guide through an analysis of the available data to the appropriate choice of one or more of the four Shore Protection Manual (SPM) (1977) methods of estimating the longshore transport rate. Each of the four methods is explained with appropriate references or examples.

CETA 80-7...A098 388
SEELIG, W.N., "Estimation of Wave Transmission Coefficients for Overtopping of Impermeable Breakwaters," Dec. 1980.

Keywords: *Breakwaters; Overtopping, wave; Runup, wave; Transmission, wave*

When a wave strikes an impermeable breakwater, some of the water may overtop the breakwater and produce regenerated waves. The Shore Protection Manual (SPM) (1977) gives a method for estimating transmission by overtopping coefficients for smooth, vertical-faced breakwaters overtopped by monochromatic waves. Wave period effects are not considered. This report presents a more general method of predicting transmission by overtopping coefficients that includes the

influence of structure slope (nonvertical as well as vertical), crest width, roughness, wave period, and wave type (irregular and monochromatic waves).

CETA 80-8...A097 986
SEELIG, W.N., and WALTON, T.L., Jr., "Estimation of Flow Through Offshore Breakwater Gaps Generated by Wave Overtopping," Dec. 1980.

Keywords: *Breakwaters; Coastal structures; Overtopping, wave*

This report presents a method for estimating the net flow through the gaps of offshore segmented breakwaters caused by wave overtopping of the breakwaters. The method was developed so that either monochromatic or irregular waves can be specified. Example problems illustrate the effects of wave height and period, breakwater freeboard, spacing between breakwaters, and shore attachment on the flow rate. Computations may be done manually or by using the computer program, BWFLOW2, available from the Corps of Engineers Computer Library, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

CETA 81-1...A098 059
WEGGEL, J.R., "Wave Loading on Vertical Sheet-Pile Groins and Jetties," Jan. 1981.

Keywords: *Groins; Jetties; Wave forces*

A method is presented for calculating the distribution of force and overturning moment resulting from incident water waves moving along the axis of a groin or jetty with vertical sides. Wave height at the structure is determined from experimental data on Mach-stem reflection. The distribution of force is assumed to be in proportion to the nonlinear shallow-water wave profile given by either the cnoidal or stream-function wave theory. An example problem demonstrates how the cnoidal theory may be used to estimate the wave force and overturning moment distribution along a structure.

CETA 81-2...A099 717
HALLERMEIER, R.J., "Seaward Limit of Significant Sand Transport by Waves: An Annual Zonation for Seasonal Profiles," Jan. 1981.

Keywords: *Sediment transport*

Sand characteristics and annual wave statistics at a site are used to determine two water depths bounding a shoal zone on the beach profile. This zonation is based on two thresholds of wave-induced sand agitation, so that expected waves during a year have neither strong nor negligible effects on the sand bottom within the shoal zone. The calculation procedure and representative results for the shoal zone bounds are presented to supplement techniques for estimating a seaward limit of significant sand transport given in the Shore Protection Manual (SPM) (1977). A calculator program is provided.

CETA 81-3...AD97 983

THOMPSON, E.F., "A Model for the Distribution Function for Significant Wave Height," Jan. 1981.

Keywords: *Nags Head, NC; Wave climatology; Weibull distribution function*

A model based on a three-parameter Weibull distribution function is given for the long-term distribution of significant wave height. The model, formulated in dimensionless terms, is believed to provide a more general representation than the corresponding models given in the Shore Protection Manual (SPM) (1977). A procedure for using available data from a site to estimate model parameters is described. The procedure extends the use of available data and leads to a model which more closely follows the data than the procedures in the SPM. The procedure is applied to shallow-water gage data from Nags Head, North Carolina. Example problems are given to illustrate the use of the model at the Nags Head site.

CETA 81-4...AD97 987

HANDS, E.B., "Predicting Adjustments in Shore and Offshore Sand Profiles on the Great Lakes," Jan. 1981.

Keywords: *Great Lakes; Lake levels; Lake Michigan; Profiles*

This report briefly describes a method for predicting long-term changes in shoreline position and offshore bathymetry on the Great Lakes. The method for predicting long-term profile adjustments to changing lake levels is based on a conceptually sound, empirically verified model which includes allowances for regional variations in storm exposure, coastal geomorphology, and sediment texture.

CETA 81-5...A101 855

SCHNEIDER, C., "The Littoral Environment Observation (LEO) Data Collection Program," Mar. 1981.

Keywords: *Data collection; LEO; Wave climatology*

The Littoral Environment Observation (LEO) Program provides data on nearshore waves, longshore and rip currents, wind conditions, and beach conditions at low cost. This report presents guidelines and procedures for LEO site selection and LEO data collection.

CETA 81-6...A103 165

EVERTS, C.H., "A Method to Forecast Sedimentation Rates Resulting from the Settlement of Suspended Solids Within Semienclosed Harbors," June 1981.

Keywords: *Dillingham Harbor, AK; Harbors; Sediment transport*

When a semienclosed harbor is planned for an area where sediments may enter the harbor in suspension, it is desirable to forecast the rate at which those sediments will be deposited. A method to make such

a forecast is presented in this report. The harbor shoaling rate (sediment accretion) is the dependent variable. The method is applicable to situations where the harbor is almost totally enclosed, bedload transport is negligible, deposition is nearly uniform throughout the harbor, sediment will not be resuspended (once deposited), and tide or river stage rise causes currents which move water and suspended sediment into the harbor.

CETA 81-7...A107 240
WEGGEL, J.R., "Some Observations on the Economics of 'Overdesigning' Rubble-Mound Structures with Concrete Armor," June 1981.

Keywords: *Armor units; Breakwaters; Cost estimates*

A cost comparison is made between two designs for a revetment-breakwater using concrete armor units. Both designs used the same type of unit (dolos); however, two different stability coefficients were used in the designs. The comparison shows that significant decreases in armor unit size may result in only insignificant cost savings and even cost increases for some conditions. This occurs because more of the smaller units are required to armor a given structure surface area and any savings in material costs is offset by the increased cost of forming, stripping, and placing a greater number of smaller units.

CETA 81-8...A104 323
FINKELSTEIN, K., and PRINS, D., "An Inexpensive, Portable Vibracoring System for Shallow-Water and Land Application," July 1981.

Keywords: *Coring devices*

A portable vibracoring system provides an efficient, rapid, and safe means of extracting cores up to 33 feet (10 meters) long. Short cores (<10 feet or 3 meters long) are also obtained with a part of the system. This report describes the system and the coring procedures for intrusion, extraction, and packaging.

CETA 81-9...A103 158
MEISBURGER, E.P., and WILLIAMS, S.J., "Use of Vibratory Coring Samplers for Sediment Surveys," July 1981.

Keywords: *Coring devices; ICONS*

This report provides information on the development and use of the pneumatic vibratory coring apparatus and on the analyses of cores used by the Coastal Engineering Research Center (CERC) during the past 18 years to assess offshore sand and gravel resources and to study the geologic character of U.S. coastal areas. The CERC experience consists of more than 1,600 cores collected in 15 surveys along the Atlantic, gulf, and Pacific coasts, as well as Lakes Michigan and Erie. This experience in obtaining, handling, and sampling cores for sedimentological analysis is presented to aid others in conducting geologic and engineering studies using the vibracore.

CETA 81-10..A104 376
HALLERMEIER, R.J., "Critical Wave Conditions for Sand Motion Initiation," July 1981.
Keywords: *Erosion; Sediment transport*

Sand and fluid characteristics together with the period of oscillatory flow determine the peak fluid velocity needed for sand motion initiation. With linear wave theory, this threshold peak near-bottom velocity can be used to calculate critical wave conditions for sand motion--either the minimum wave height in a given water depth, or the maximum water depth with a given wave height, for a given wave period. The procedure presented here permits prediction of the seaward extent of bed activity due to wave action in field and laboratory situations. Example calculations are provided.

CETA 81-11..A107 285
BIRKEMEIER, W.A., "Fast, Accurate Two-Person Beach Surveys," Aug. 1981.

Keywords: *Profiles; Surveying*

Generally, the most accurate beach survey data are obtained using a surveying level to determine elevation and a tape to measure distance; however, this procedure requires a minimum of three people. Commonly used two-person surveying procedures are stadia surveying and the Emery method. This report discusses a modified stadia surveying procedure which, when used properly, is fast and produces data of comparable accuracy to level and tape surveying. Because more readings are taken (three per survey point), the data provide a higher degree of confidence than is available with the other methods.

CETA 81-12..A107 241
HUBERTZ, J.M., "Prediction of Wave Refraction and Shoaling Using Two Numerical Models," Aug. 1981.

Keywords: *Mathematical models; Refraction, wave; Shoaling*

Two numerical models to predict wave refraction and shoaling in shallow water are described. One model is formulated in terms of wave rays, the other in terms of wave spectra. Output from each model is illustrated and compared to observations made at CERC's Field Research Facility at Duck, North Carolina.

CETA 81-13..A108 757
HERCHENRODER, B.E., "Products from Two Computer Programs Which Process Digital Bathymetric Data," Oct. 1981.

Keywords: *Mathematical models; Shore processes*

A description is given of products from two computer programs which process digital bathymetric data. One program generates regularly spaced bathymetric data from irregularly spaced data. The other uses regularly spaced data to determine and draw contours. A large set of

irregularly spaced bathymetric data available on magnetic tape for U.S. coastal regions is also described. Examples of output from each program are displayed for two coastal areas.

CETA 81-14..A110 486
HERCHENRODER, B.E., "Effects of Currents on Waves," Oct. 1981.

Keywords: *Currents; Wave characteristics*

This report presents ways in which a horizontal current influences surface gravity waves and their measurement. Relatively simple hand-calculation methods are described which provide a means to estimate (1) the wavelength modification due to a current, (2) whether a current can prevent waves from reaching a particular location, (3) the correction needed to compensate for a current when measured bottom pressure fluctuations are used to estimate wave heights, and (4) the range of periods (if any) where the effects of currents can be neglected when wave heights are estimated from bottom pressure fluctuations.

CETA 81-15..A110 738
HEMSLEY, J.M., "Guidelines for Establishing Coastal Survey Base Lines," Nov. 1981.

Keyword: *Surveying*

This report presents guidelines for establishing base lines for coastal surveys and for monumenting, documenting, and referencing those base lines and the profile lines.

CETA 81-16..A112 521
VINCENT, C.L., "A Method for Estimating Depth-Limited Wave Energy," Nov. 1981.

Keywords: *Wave characteristics; Wave energy*

A method for estimating an upper limit of wind wave energy in shallow water is presented. The method requires knowledge of the depth, the peak frequency of the sea, and the windspeed in order to predict a depth-controlled wave height, H , defined as $4(E)^{1/2}$, with E the energy of the wind sea. In the shallow limit, H is shown to be approximately proportional to the square root of depth. The method is recommended for predictions in storm seas and not for swell (i.e., nearly monochromatic waves).

CETA 81-17..A113 658
AHRENS, J.P., "Irregular Wave Runup on Smooth Slopes," Dec. 1981.

Keywords: *Runup, wave*

The results of several laboratory studies have been used to develop a method to estimate the wave runup and rundown on plane, smooth slopes caused by irregular wave action. Curves and equations are presented which can be used to compute the 2 percent runup, significant runup, mean runup, and approximate lower limit of rundown. A procedure is

suggested for adapting the smooth-slope results to wave runup on rough and porous slopes. Example problems illustrate the use of the material presented.

CETA 82-1 .... A116 206

WALTON, T. L., BIRKEMEIER, W.A., and WEGGEL, J.R., "Hand-Held Calculator Algorithms for Coastal Engineering," Jan. 1982

Keywords: *Wave transformation*

This report provides algorithms for a number of calculator programs useful in performing coastal engineering calculations, primarily in the area of wave transformations and wave generation. Six programs are included with different versions for use with hand-held calculators which employ either the Reverse Polish Notation or the Algebraic Operating System. These programs can be used to compute linear wave parameters, orbital velocities, breaking wave height and directions, shallow-water forecasts, depth-limitd breaking wave height, and wave transmission past a vertical barrier.

CETA 82-2 .... A116 274

GROSSKOPF, W.G., and VINCENT, C.L., "Energy Losses of Waves in Shallow Water," Feb. 1982.

Keywords: *Wave characteristics; Wave climatology*

This report presents a method for predicting nearshore significant wave height given the straight-line fetch length, the windspeed, and the nearshore water depth. The prediction curves were generated by numerically propagating offshore JONSWAP spectra shoreward while applying shoaling and wave steepness limitation criteria to each spectral component. Example problems are included.

CETA 82-3 .... A116 309

KNUTSON, P.L., and INSKEEP, M.R., "Shore Erosion Control with Salt Marsh Vegetation," Feb. 1982.

Keyword: *Vegetation*

Salt marsh plants are effective in stabilizing eroding shorelines in many sheltered coastal areas. Exceptional results have been achieved in a variety of intertidal environments at a fraction of the cost required for comparable structural protection. Techniques are available for the efficient propagation of several marsh plants for use in shore stabilization. This report provides a method for determining site suitability, establishes guidelines for planting marshes to control erosion, and compares the costs of vegetation to structural methods of erosion control.

CETA 82-4 .... A123 965

WALTON, T.L., "Hand-Held Calculator Algorithms for Coastal Engineering (Second Series)," Nov. 1982.

Keywords: *Mathematical models; Wave characteristics; Wave transformation*

This report provides algorithms for a number of calculator programs useful in performing coastal engineering calculations, primarily in the area of wave transformations and wave generation. Six programs are included for use with HP 41CV hand-held calculators which employ the Reverse Polish Notation (RPN). These programs can be used to compute linear wave parameters, orbital velocities, breaking wave height and direction, shallow-water forecasts, depth-limited breaking wave height, and wave transmission past a vertical barrier.

CETA 82-5...A126 497
WILLIAMS, S.J., "Use of High-Resolution Seismic Reflection and Side-Scan Sonar Equipment for Offshore Survey," Nov. 1982.

Keywords: *Seismic reflection*

This report provides information on the development of seismic reflection and side-scan sonar equipment and the wide use of the equipment in surveys by the Coastal Engineering Research Center (CERC) for nearly two decades. Objectives of the investigation are to quantitatively assess offshore sand and gravel resources and study the geological and engineering character of U.S. marine and Great Lakes nearshore regions. This is the third and final report in a series describing the procedures for carrying out sand resource surveys over Continental Shelf areas to locate potential sources of sand for beach nourishment. The first report (Prins, 1980) covered procedures for designing and conducting sand inventory surveys. The second report (Meisburger and Williams, 1981) dealt with the use of the Alpine-type pneumatic vibratory coring device to retrieve long sediment cores.

CETA 82-6...A123 971
FONSECA, M.S., KENWORTHY, W.J., and THAYER, G.W., "A Low-Cost Planing Technique for Eelgrass (Zostera marinal L.)," Dec. 1982.

Keywords: *Transplanting; Vegetation*

Transplanting of eelgrass (Zostera marina) has undergone considerable experimental study in the last decade, but with limited practical application. A new technique has been developed using bundles of mature, vegetative shoots of eelgrass washed free of sediment and anchored in the bottom. Using this technique, planting units have been successfully established, and the production-line efficiency greatly reduces planting costs. Methods developed for selecting wild planting stock and anchoring planting units greatly increases planting success across the range of current velocities in which eelgrass is found.

CETA 82-7...A125 104
HUBERTZ, J.M., "Prediction of Nearshore Wave Transformation," Dec. 1982.

Keywords: *Mathematical models; Shoaling; Wave transformation*

The DHI System 21 Mark 8 numerical model for the prediction of both long and short waves is being used in certain studies of coastal engineering problems. Procedures are discussed for using the model to predict nearshore short wave transformations. An example is presented showing the combined effects of refraction, shoaling, reflection, and diffraction. Predicted model results are compared to measured wave heights at the Coastal Engineering Research Center's Field Research Facility in Duck, North Carolina.

CETA 83-1 .... A128 933

HALLERMEIER, R.J., "Calculation of Wave Shoaling with Dissipation Over Nearshore Sands," Mar. 1983.

Keywords: *Shoaling; Wave climatology*

This report provides a simplified calculation procedure for nearshore wave height changes considering the energy dissipated by rough turbulent flow over a strongly agitated bed of quartz sand. All elementary wave relationships are from linear monochromatic wave theory, but one effect of including dissipation is that calculated height changes depend on the absolute wave height. The general effect of appreciable energy loss is to make field wave height relatively constant outside the breaker zone. Example computations and a calculator program are provided.

SR 1..................................Vol I---GPO Stock No. 008-022-00083-6
Vol II---GPO Stock No. 008-022-00084-6

DEAN, R.G., "Presentation of Research Results," Vol I, "Tabulation of Dimensionless Stream Function Theory Variables," Vol II, *Evaluation and Development of Water Wave Theories for Engineering Application*, Nov. 1974.

Keywords: *Stream-function wave theory; Waves characteristics*

This research report and the large set of tables represent the most up-do-date and most accurate method available to coastal engineers to determine wave characteristics for design purposes. The report and tables can be used in the design of structures vulnerable to wave action, including shore protection structures, offshore oil platforms, and offshore harbors.

Volume I describes: (a) an evaluation of the degree to which various available wave theories satisfy the nonlinear water-wave mathematical formulation and (b) a comparison of water particle velocities measured in the laboratory with those predicted by a number of available wave theories. The results indicated that Dean's stream-function wave theory provided generally better agreement with both the mathematical formulation and the laboratory data. Volume I also includes a number of examples illustrating the application of the wave tables (described below) to offshore design problems.

Based on the evaluation phase described above, a set of wave tables was developed and is presented as Volume II. The tables consist of dimensionless quantities which describe the kinematic and dynamic fields of a two-dimensional progressive water wave. In addition, quantities are included which are directly applicable to frequently required design calculations and also parameters which should be of interest to the researcher and scientist.

SR 2...GPO Stock No. 008-022-00091-7

DUNHAM, J.W., and FINN, A.A., "Small-Craft Harbors: Design, Construction, and Operation," Dec. 1974.

Keywords: *Docks; Harbors; Marinas; Piers*

This report presents analytical data and design standards and procedures for use in the development of small-craft harbors and launching facilities under a wide variety of conditions applicable to a broad spectrum of geographic locations. Environmental impact and governmental control aspects are discussed. Procedures for determining project feasibility and possible sources of governmental assistance are presented. Harbor operations and administration are reviewed. Several case histories of harbors are included.

SR 3...GPO Stock No. 008-022-00124-7
WOODHOUSE, W.W., Jr., "Dune Building and Stablization with Vegetation," Sept. 1978.

Keywords: *Dunes; Fences, sand; Vegetation*

This is the first comprehensive report on dune building and stabilization in the United States. The practical information on methods and dune plants is the result of more than 20 years of experimentation in coastal areas from the mouth of the Columbia River in Oregon through southern California and the Gulf of Mexico to Cape Cod, Massachusetts. The use of fences and vegetation for dune creation is discussed, and the labor and material requirements for dune creation and sand stabilization projects are summarized. The major plants suitable for dune building, their propagation and planting requirements, and the stabilizaton of dunes by various means such as matting, fences, and vegetation, are given for the major coastal regions of the contiguous United States. The techniques discussed are now applicable to these coastal regions.

SR 4...GPO Stock No. 008-022-00133-6
WOODHOUSE, W.W., Jr., "Building Salt Marshes Along the Coasts of the Continental United States," May 1979.

Keywords: *Marshes; Vegetation*

This is the first comprehensive report on coastal marsh creation in the United States. It provides potential users an analysis and interpretation of the available information on this subject. The role of marshes, the feasibility of marsh creation, and the effects of elevation, salinity, slope, exposure, and soils on marsh establishment are discussed. Plants suitable for marsh building are described by the major regions.

SR 5...GPO Stock No. 008-022-00141-7
HUDSON, R.Y., et al., "Coastal Hydraulic Models," May 1979.

Keywords: *Hydraulic models; Movable-bed modeling*

This comprehensive report describes the use of hydraulic models to assist in the solution of complex coastal engineering problems. The report provides information for use by both the laboratory research engineer and the field design engineer on the capabilities and limitations of coastal hydraulic modeling procedures.

SR 6...GPO Stock No. 008-022-00145-0
CAMFIELD, F.E., "Tsunami Engineering," Feb. 1980.

Keywords: *Mathematical models; Tsunamis; Wave forces*

This report provides a source of state-of-the-art information on tsunami engineering. The report summarizes available information, identifies gaps in existing knowledge, and discusses methods of predicting tsunami flooding. The generating mechanisms of tsunamis and

the method of determining the probability of occurrence are given. The report discusses tsunami-structure interaction and illustrates various types of damage caused by tsunamis.

SR 7....................................GPO Stock No. 008-022-00161-1
HARRIS, D.L., "Tides and Tidal Datums in the United States," Feb. 1981.

Keywords: *Tidal datums; Tides*

The boundary between sea and land appears to be the natural datum of reference for measuring elevation of land or depth of the sea. This boundary, however, varies continuously because of the astronomical tides and for other reasons. The various factors which cause this variability are discussed, with emphasis on the astronomical tides as the most predictable of the phenomena which affect sea level. Several tidal datums of practical importance are described. Sources of detailed information are identified. Difficulties associated with surveys which extend over a wide range of latitude and elevation are discussed. Statistical characteristics of the astronomical tides at various U.S. ports are investigated and documented with graphs and tables.

SR 8...A102 491
WEGGEL, J.R., "Weir Sand-Bypassing Systems," Apr. 1981.

Keywords: *Jetties; Sand bypassing; Weir jetties*

This report presents methodology for designing weir sand-bypassing systems. Jetties are generally shore-normal structures built at tidal inlets to fix the location of the inlet and associated navigation channel. The design of a weir bypassing system requires knowledge of the wave and sand transport conditions at a site and involves locating and proportioning the jetties, weir section, deposition basin, and navigation channel, as well as selecting and designing the desired updrift and downdrift beach configuration. Methods of data analysis and interpretation for weir-system design are presented along with guidance on proportioning the various components of a weir bypassing system.

SR 9...A129 810
KNUTSON, P.L., and WOODHOUSE, W.W., "Shore Stablization with Salt Marsh Vegetation," Jan. 1983.

Keywords: *Marshes; Vegetation*

This report provides engineers and scientists with guidelines on using coastal marsh vegetation as a shore erosion control measure in coastal regions of the United States. This erosion control alternative is suitable for relatively sheltered shorelines such as those found on bays, sounds, and estuaries. For various reasons this alternative has not been found to be effective in the Great Lakes, Alaska, or Hawaii. Criteria are provided on (1) determining site suitability, (2) selecting plant materials, (3) planting procedures and specifications, (4) estimating project costs, and (5) assessing impact.

SR 10 ....A129 810
MOFFATT and NICHOL, ENGINEERS, "Construction Materials for Coastal Structures," Feb. 1983.

Keywords: *Coastal structures; Construction materials*

This is a comprehensive report describing design properties of materials used in coastal protective structures and some harbor structures. The materials include stone, earth, concretes, asphalts, grouts, structural and sheet metals, wood, and plastics. The principal physical properties of these materials and their importance in the selection of materials for different types of projects are presented. The materials that have proved most effective and durable in coastal structures, such as stone, concrete, steel, and timber, are emphasized by detailed coverage of their properties. Synthetic materials used for geotextiles are described in detail also.

7. GENERAL INVESTIGATIONS OF TIDAL INLETS

GITI 1...(not published)

GITI 2...AD12 798
BARWIS, J.H., "Catalog of Tidal Inlet Aerial Photography," June 1975.

Keywords: *Aerial photography; Tidal inlets*

Data on approximately 6000 aerial photographic coverages of tidal inlets are presented in tabular form, along with information on how any given photo may be obtained. The compilation covers inlets along the Atlantic, gulf, and Pacific coasts of the contiguous U. S. coastline from 1938 to 1974. Information is also given on sources of additional photography and on obtaining photography of beach areas between any two inlets.

GITI 3...AD22 327
JARRETT, J.T., "Tidal Prism-Inlet Area Relationship," Feb. 1976.

Keywords: *Tidal inlets*

The tidal prism-inlet area relationships for inlets on sandy coast established by M. P. O'Brien were reanalyzed using his data and data published by other investigators. In addition, tidal prism and inlet cross-sectional area data developed in the Inlet Classification Study, a subfeature of the Corps of Engineers General Investigation of Tidal Inlets, were also used. These data result in a total of 162 data points for 108 inlets--59 of which are located on the Atlantic coast, 24 on the gulf coast, and 25 on the Pacific coast of the United States. The data are grouped into three main categories, namely (1) all inlets, (2) unjettied and single-jettied inlets, and (3) inlets with two jetties.

GITI 4...AD20 355
BARWIS, J.H., "Annotated Bibliography on the Geologic, Hydraulic, and Engineering Aspects of Tidal Inlets," Jan. 1976.

Keywords: *Bibliographies; tidal inlets*

Abstracts and annotations are given for about 1000 published and unpublished reports, dated 1973 and earlier, on the geologic and engineering aspects of tidal inlets. Insofar as they relate to inlets, references are given on tidal hydraulics, engineering structures, littoral processes, stratigraphy and geologic history, coastal aerial photography, and Corps of Engineers reports of investigation of individual inlets.

GITI 5...AD22 83
O'BRIEN, M.P., "Notes on Tidal Inlets on Sandy Shores," Feb. 1976.

Keywords: *Tidal inlets*

This report presents observations, theories, and analysis that the author has found applicable to the rational design of coastal inlets. It also presents various memorandums on the behavior and sedimentary and hydraulic characteristics of tidal inlets on sandy shorelines and is intended to represent a source of ideas for graduate thesis studies, as well as a stimulant to other research workers in this field.

GITI 6...A052 795

HARRIS, D.L., and BODINE, B.R., "Comparison of Numerial and Physical Hydraulic Models, Masonboro Inlet, North Carolina," Main text and Appendices 1-4, June 1977.

Keywords for main text and Appendices 1-4: *Hydraulic models; Masonboro Inlet, NC; Mathematical models; Tidal inlets*

Four models of Masonboro Inlet, North Carolina, have been developed in a program for assessing the value of models in investigating coastal inlet hydraulics problems. A distorted scale, fixed-bed physical model, a lumped parameter numerial model, and two two-dimensional numerial models were included in the study. The report presents equation which govern the mean flow in incompressible, nearly homogeneuous fluid layers along with the physical interpretation of each term. Discussed in this report are general considerations for modeling tidal flows and their application to distorted scale physical models, with particular reference to the Masonboro Inlet model. General features of numerial models and their application to two-dimensional hydrodynamic models such as the Masonboro Inlet models are also discussed. This report has four appendixes, published as four separate reports.

Appendix 1--- A052-796

SAGER, R.A., and SEABERGH, W.C., "Fixed-Bed Hydraulic Model Results," June 1977.

This appendix discusses the verification, base tests, and predictive test of a fixed-bed hydraulic model of Masonboro Inlet, North Carolina, as part of the evaluation of the state-of-the-art inlet modeling techniques. It presents the data necessary for a comparison of results of the physical and numerical models discussed in the basic report and in the following appendixes.

Appendix 2--- Vol. 1---A052 797
Vol. 2---A052 798

MASCH, F.D., BRANDES, R.J., and REAGAN, J.D., "Numerical Simulation of Hydrodynamics (WRE)," June 1977.

This study was initiated to help evaluate the degree to which mathematical models can be used to predict quantitatively the hydrodynamics of flow through tidal inlets (exclusive of sediment transport). For this purpose, HYDTID, a two-dimensional finite-difference computational model, was applied to Masonboro Inlet. HYDTID, with its genesis in the hurricane surge model of Reid and Bodine (1968), was formulated and programmed as a basic part of a comprehensive study for the development

of estuarine transport model (Masch, et al., 1969 and Masch and Bandes, 1971) and has been developed to its present form through a series of application-improvement efforts. The modeling capabilities in HYDTID are described, and details of the basic equations, boundary conditions, numerical solution scheme and programing techniques are presented. This is followed by the application of HYDTID together with a discussion of the requirements imposed by Masonboro Inlet. This appendix is published in two volumes.

Appendix 3---A052 799

CHEN, R.J., and HEMBREE, L.A., Jr., "Numerical Simulation of Hydrodynamics (Tractor)," June 1977.

The objective of this study was the adaptation of Tractor's two-dimensional hydraulic model to Masonboro Inlet, North Carolina, in order to predict the water surface time history and current velocities from Masonboro Inlet for two hydrographic conditions. The project consisted of three main phases: (1) adaptation of Tractor's model to Masonboro Inlet, (2) adjustment of the model to allow reproduction of the prototype tides and currents of 12 September 1969, and (3) prediction of tides and currents for the additional hydrographic conditions of the inlet for November 9164 and June 1967 using idealized mean and spring tides in the ocean.

Appendix 4---A052 800

HUVAL, C.J., and WINTERGERST, G.L., "Simplified Numerical (Lumped Parameter) Simulation," June 1977.

This study is concerned with the implementation and application of a hydraulic mathematical model for predicting ocean tide-induced current velocities within a coastal inlet and the water level fluctuation in an adjoining embayment. The mathematical model used in this study, referred to as the lumped parameter approach, is based on an extension of the method developed by Keulegan (1967). The numerical system described in this study is composed of three computer programs, each performing a separate function. One program generates a set of tables to give generalized inlet hydraulics for some variable basin surface areas. A second program (INLET) gives serial calculations of the inlet flow and the basin variations. The third program (SECPLT) plots the ocean tide, basin tidal response, inlet velocity, and inlet flow and computes inlet cross-sectional areas from digitized hydrographic data.

The objective of this study was to apply the lumped parameter model to Masonboro Inlet and determine the tidal response of the system of inner-connecting channels and velocities arising from a given ocean tide.

GITI 7..A026 699

McNAIR, E.C., "Model Materials Evaluation; Sand Tests; Hydraulic Laboratory Investigation," June 1976.

Keywords: *Hydraulic models; Movable-bed modeling; Quartz sand; Sediment transport; Tidal inlets*

A laboratory investigation was performed to define responses of a natural quartz sand to various hydraulic conditions. The results demonstrate the performance of the material in a movable-bed model and, when compared with the responses of other materials, may provide a basis for the selection of optimum materials of various movable-bed modeling requirements.

GITI 8..A038 472

BEHRENS, E.W., WATSON, R.L., and MASON, C., "Hydraulics and Dynamics of New Corpus Christi Pass, Texas: A Case History, 1972-73," Jan. 1977.

Keywords: *Corpus Christi Pass, TX; Sediment transport; Tidal inlets*

A case history of the hydraulics and sedimentation of the Corpus Christi Water Exchange Pass, Texas, from 1973-75 is presented. Qualitative data are given on longshore sediment transport, tidal differentials, flood and ebb tidal discharge, wind waves, and local winds to explain bathymetric changes in the Pass.

GITI 9..A033 607

WATSON, R.L., and BEHRENS, E.W., "Hydraulics and Dynamics of New Corpus Christi Pass, Texas: A Case History, 1973-75," Sept. 1976.

Keywords: *Corpus Christi Pass, TX; Sediment transport; Tidal inlets*

A case history of the hydraulics and sedimentation of the Corpus Christi Water Exchange Pass, Texas, from 1973-75 is presented. Qualitative data are given on longshore sediment transport, tidal differentials, flood and ebb tidal discharge, wind waves, and local winds to explain bathymetric changes in the Pass.

GITI 10...A033 419

FINLEY, R.J., "Hydraulics and Dynamics of North Inlet, South Carolina, 1974-75," Sept. 1976.

Keywords: *North Inlet, SC; Sediment transport; Tidal inlets*

Variation in wave parameters, beach and inlet morphology, and tidal hydraulics are discussed in relation to climatic patterns at North Inlet, South Carolina.

GITI 11...A040 021

MAYOR-MORA, R.E., "Laboratory Investigation of Tidal Inlets on Sandy Coasts," Apr. 1977.

Keywords: *Hydraulic models; Tidal inlets*

A movable-bed inlet model is used to study inlet hydraulics for a variety of inlet configurations and for various conditions. Parameters useful to classify inlet hydraulics are suggested, and inlet stability by re-examining the inlet cross-sectional area versus prism relationship is discussed.

GITI 12..A042-651
KIESLICH, J.M., "A Case History of Port Mansfield Channel, Texas," May 1977.

Keywords: *Port Mansfield, TX; Sediment transport; Tidal inlets*

The report presents a case history and analysis of Port Mansfield channel, an artificial, jettied inlet between the Gulf of Mexico and Laguna Madre, Texas, and the results of an office study of available field data at the channel from construction in 1957 to 1975.

GITI 13..A045 523
ESCOFFIER, F.F., "Hydraulics and Stability of Tidal Inlets," Aug. 1977.

Keywords: *Masonboro Inlet, NC; Mission Bay, CA; Rollover Fish Pass, TX; Tidal inlets*

This report summarizes important basic developments pertaining to analysis of the hydraulics and related stability of tidal inlets. The original inlet stability concept proposed by Escoffier is extended in light of recent work. Tidal inlet characteristics and functional design requirements as well as case studies of selected inlets on the U.S. coasts are briefly discussed.

GITI 14..A050 315
SEELIG, W.N., HARRIS, D.L., and HERCHENRODEER, B.E., "A Spatially Integrated Numerical Model of Inlet Hydraulics," Nov. 1977.

Keywords: *Currents; Mathematical models; Storm surge; Tidal inlets; Tides; Tsunamis*

This report discusses the development of a simple numerical model for the prediction of coastal inlet velocities, discharge, and resulting bay level fluctuations. The model is a time-marching model that simultaneously solves the area-averaged momentum equation for the inlet and the continuity equation for the bay. It is assumed that the bay surface elevation remains horizontal as it rises and falls. At each time step the geometric and hydraulic factors describing the inlet-bay system are calculated by evaluating flow conditions throughout the inlet and by spatially integrating this information to determine coefficients of the first-order differential equations.

This model, which includes the important terms in the equation of motion, is flexible, easy and inexpensive to use, and gives a good estimate of the inlet-bay system hyrdaulics for various conditions. The model can be used for single or multiple inlets, bays, and seas.

The report includes the model theory and derivation, a FORTRAN computer program. Examples are given to illustrate how the model may be used to predict coastal inlet response to astronomical tides, seiching, tsunamis, and storm surges.

GITI 15...A055 523
SAGER, R.A, and SEABERG, W.C., "Physical Model Simulation of the Hydraulics of Masonboro Inlet, North Carolina," Nov. 1977.

Keywords: *Hydraulic models; Masonboro Inlet, NC; Tidal inlets*

The Masonboro Inlet fixed-bed model study was conducted to determine the ability of existing physical modeling techniques to predict the hydraulic characteristics of an inlet-bay system and to determine whether simple tests, performed rapidly and economically, could be useful in predicting the effects of proposed inlet improvements. This report presents model vertification and prediction data as well as analyses concerning a comparison of model results and effects of waves on model hydraulics.

GITI 16...A063 986
NUMMEDAL, D., and HUMPHRIES, S.M., "Hydraulics and Dynamics of North Inlet, South Carolina, 1975-76," Sept. 1978.

Keywords: *North Inlet, SC; Tidal inlets*

North Inlet, South Carolina, was selected as a natural tidal inlet for investigation within the scope of the U.S. Army Corps of Engineers program on General Investigations of Tidal Inlets. Over a 2-year period from July 1974 to June 1976, eight 2-week intensive field sessions were conducted at the inlet. Three tide gages provided nearly continuous water surface elevation records for the ocean and tidal creeks throughout the period of investigation. The analysis presented in this report focuses on three attributes of the inlet environment: (1) the inlet hydraulics, (2) the longshore currents adjacent to the inlet, and (3) the seasonal morphologic change of the North Inlet tidal deltas and adjacent beaches.

GITI 17...A077 686
JAIN, S.C., and KENNEDY, J.F., "An Evaluation of Movable-Bed Tidal Inlet Models, " Feb. 1979.

Keywords: *Movable-bed modeling; Sediment transport; Tidal inlets*

The objective of this study was (1) to evaluate the effectiveness of movable-bed tidal inlet hydraulic models in predicting prototype behavior by comparing model predictions with the observations made in the prototype and (2) to examine the scaling requirements for such models.

GITI 18...A088 761
SEABERGH, W.C., and SAGER, R.A., "Supplementary Tests of Masonbor Inlet Fixed-Bed Model: Hydraulic Model Investigation," May 1980.

Keywords: *Hydraulic models; Masonboro Inlet, NC; Tidal inlets.*

This report describes supplemental tests of the Masonboro Inlet fixed-bed model not reported in GITI Report 15. Three separate studies

were performed in the tests. The first study examined the effects of the closing of various bay channels on the inlet's hydraulics; the second examined the effects of the addition of a south jetty to the existing condition, which has a single north jetty, and the resulting hydraulics for various weir evaluations on both jetties. The third study examined the use of a tracer material and closely paralleled the hydraulic testing sequence discussed in the previous report.

GITI 19...A112 448
KIESLICH, J.M., "Tidal Inlet Response to Jetty Construction," Oct. 1981.

Keywords: *Jetties; Navigation channels; Tidal inlets*

Thirteen tidal inlets located on the Atlantic, gulf, and Pacific coasts of the continental United States were selected for a study of the response of inlet ocean entrances to man made improvements. Inlet entrance behavior following jetty construction was evaluated, and guidelines for the functional design of inlet entrance improvements are suggested. The inlets considered in the study were those where a single updrift or downdrift jetty was built first.

GITI 20...A087 795
VINCENT, C.L., and CORSON, W.D., "Geometry of Selected U.S. Tidal Inlets," May 1980.

Keywords: *Tidal inlets*

The geometry of the throats and ebb deltas of 67 U.S. tidal inlets is investigated. Thirteen parameters indicative of the tidal inlet geometry are defined and measured with correlations developed. Cluster analysis and discriminant analysis are applied to the data, and an objective classification of the inlets into six groups is achieved.

GITI 21...(not published)

GITI 22...A116 110
MCTAMANY, J. E., "Evaluation of Physical and Numerical Hydraulic Models, Masonboro Inlet, North Carolina," Feb. 1982.

Keywords: *Hydraulic models; Masonboro, Inlet, NC; Mathematical models*;

A fixed-bed distorted-scale physical model, a two-dimensional vertically integrated numerical model, and a spatially integrated numerical model were calibrated to determine prototype conditions at Masonboro Inlet, North Carolina, in September 1969.

R 1-66...631 518
WILLIAMS, L.C., "An Ocean Wave Direction Gage," Feb. 1966.

Keywords: *Gages, wave; Instrumentation*

This paper outlines laboratory and short-term field testing of the use of an ultrasonic flow device for determining the direction of approach of ocean waves. The ultrasonic flowmeter measures the bid-directional flow of water past a pair of sensing elements. The direction of flow sensing is in a plane in line with the sensing elements. The output of the ultrasonic flowmeter is fed to a strip-chart recorder which indicates the relative magnitude of the waterflow. Thus, alinement of the water flowmeter into an ocean wave train may provide the direction of approach of the wave.

R 2-66...631 519
SAVILLE, T., Jr., GARCIA, W.J., and LEO, C.E., "Breakwaters with Vertical and Sloping Faces," Feb. 1966.

Keywords: *Breakwaters; Transmission, wave; Wave forces*

An important element of coastal engineering is the design of break-water structures. Design criteria now permit efficient and economic building of breakwater structures; new research and evaluating performance of existing structures result in a constant improvement of design criteria. This paper summarizes the progress made in the field since 1953.

R 3-66...631 520
BERG, D.W., "Factors Affecting Beach Nourishment Requirements, Presque Isle Peninsula, Erie, Pennsylvania," Feb. 1966.

Keywords: *Beach nourishment; Great Lakes; Lake Erie; Presque Isle, PA*

The use of artifical beaches as protective shore structures is becoming so popular that borrow sources of well-suited fill material are becoming difficult to find. Accordingly, borrow sources of less suitable material are being used. Research and evaluation of existing artificial beaches continue to determine the behavior of various types of fill after exposure to the littoral regime. This paper summarizes the results of beach replacement and continuing nourishment at Presque Isle Peninsula, Erie, Pennsylvania; compares borrow material with natural material by showing before-and-after profiles; and correlates rates of volumetric changes with changes in lake level.

R 4-66...636 951
FAIRCHILD, J.C., "A Tractor-Mounted Suspended Sand Sampler," June 1966.

Keywords: *Instrumentation; Nags Head, NC; Sand sampler; Sediment transport; Ventnor, NJ*

The transport of suspended material by the action of wave-induced littoral currents comprises a significant part of the total material transported along the U.S. shorelines. Field measurements of material in suspension are needed to guide laboratory studies of sand in suspension and to assure better understanding of the far greater complexity of the suspension mechanism in nature in contrast to the much simpler regime caused by uniformly generated laboratory waves. To meet these needs, a tractor-mounted suspended sand sampler has been developed at the CERC laboratory. The development and the projected use of this sampler, which can be operated from the average fishing pier, are described in this paper. Field operations were conducted at Nags Head, North Carolina, and at Ventnor, New Jersey.

R 1-67..652 025
CALDWELL, J.M., "Coastal Processes and Beach Erosion," Jan. 1967.

Keywords: *Erosion; Shore processes*

With few exceptions, streams are adding little material to the beaches, and present loss of material from the beaches is essentially a permanent loss. The dominant zone extends from the 50-foot contour to shore. Wave period, length, height, and steepness are important in determining the effect of waves on beaches. Changes in these parameters can be computed fro great distances from the fetch area. Short storm waves drag material from the beach and deposit it in deep water; long swells push offshore material back onto the beach. In this paper, the new Jersey shore, 120 miles long and broken by 10 inlets, is examined as a field laboratory of shore processes.

R 2-67..659 170
HALL, J.V., Jr.,"Wave Tests of Revetment Using Machine-Produced Interlocking Blocks," Aug. 1967.

Keywords: *Interlocking blocks; Revetments*

There is a growing requirement for relatively low-cost shore protection in protected bodies of water such as bays and estuaries. The interlocking-block revetments explained in t his paper may help this need. These revetments are simple to install, and the material involved is comparatively inexpensive.

R 3-67..659 573
SAVILLE, T., Jr., "Rock Movement in Large-Scale Tests of Riprap Stability Under Wave Action," Aug. 1967.

Keywords: *Revetments; Riprap*

This paper summarizes a presentation based mainly on "time-lapse" motion pictures. Two rubble revetments were tested in the large wave tank at CERC; results of these revetment tests are presented here. The first revetment was compoised of a Kimmswick limestone; the median weight of the pieces was 120 pounds. The other revetment was characterized by a top layer of 80-pound tribars.

R 4-67 .... 659 172

BERG, D.W., and WATTS, G.M., "Variations in Groin Design," Sept. 1967.

Keyword: *Groins*

Considering all types of structures used for shore protection purposes, the groin is probably the most widely used and least understood. This paper points out pertinent features of basic types of groins and illustrates some of the many variations whcih have been built in the United States.

R 1-68 .... 672 613

DARLING, J.M., "Surf Observations Along the United States Coasts," Feb. 1968.

Keywords: *Wave Climatology*

This paper summarizes the surf observations program at CERC. The program was established in 1954 and is a cooperative project with the U.S. Coast Guard. Initially, 27 Coast Guard Stations located at various points along the three U. S. coasts participated in this program. Visual observations of the surf were made at 4-hour intervals according to prescribed methods (visibility permitting) and recorded on standard forms developed by CERC.

R 2-68 .... 672 614

GALVIN, C.J., Jr., "Longshore Current Velocity: A Review of Theory and Data," Aug. 1968.

Keyword: *Currents*

This paper reviews published field and laboratory observations that permit a description of longshore current flow and evaluates the theories proposed to predict longshore current velocity. The review covers papers published in North American sources; it is selective rather than exhaustive, emphasizing recent results and omitting data known to exist but unpublished.

R 3-68 .... 673 621

GALVIN, C.J., Jr., "Breaker Type Classification on Three Laboratory Beaches," June 1968.

Keywords: *Wave characteristics*

This paper quantitatively classifies breaker type on three laboratory beaches. This classification is made empirically by correlating dimensionless steepness parameters, based on wave height, wave period, and beach slope, with the breaker type obtained from films of a wide range of conditions.

R 1-69 .... 694 204

BERG, D.W., and DUANE, D.B., "Effect of Particle Size and Distribution on Stability of Artificially Filled Beach, Presque Isle Peninsula, Pennsylvania," Apr. 1969.

Keywords: *Beach nourishment; Presque Isle, PA*

Presque Isle Peninsula, a sandy spit on the south shore of Lake Erie, has experienced continued erosion of its lakeside shoreline since first attempts to stabilize and halt its natural eastward migration. In 1965, sandfill, coarser than fill previously used as well as coarser than that which naturally existed on the peninsula, was placed on a section of beach. Annual data collection surveys were then made in the fill area and in or adjacent to parts of the peninsula. Analysis of the data indicates the test area involving coarse sandfill has undergone minimal material loss and maintained a relatively stable profile. On the basis of this experiment it is judged that definite shore stabilization occurs, with attendant benefits such as substantially reduced nourishment requirements, from the utilization of sandfill that has size characteristics superior to that originally found on an eroding beach.

R 2-69...697 531

WEYMOUTH, O.F., and MAGOON, O.T., "Prototype Investigation of Stability of Quadripod Cover Layer, Santa Cruz Harbor, California," Sept. 1969.

Keywords: *Armor units; Quadripods; Santa Cruz Harbor, CA*

This paper presents the results of a 4-year study of the stability of a prototype breakwater armor layer composed of 28-ton concrete quadripods. The study was conducted by measuring the incident wave height and the quadripod movements during this period. The ultimate goal of this study is the vertification of empirical breakwater design equations.

R 3-69...697 532

SAVAGE, R.P., and WOODHOUSE, W.W., Jr., "Creation and Stabilization of Coastal Barrier Dunes," Sept. 1969.

Keyword: *Dunes*

This paper presents the results of field experiments to create and stabilize barrier dunes along the North Carolina coast during the past decade. All of the experimental work has been carried out on low-lying barrier islands, a geographical environment typical of most of the Atlantic and gulf coasts of the United States. The experimentation has been directed toward the use of sand fences and dune grasses to catch and hold windblown sand and thus create and maintain a barrier dune.

R 4-69...697 533

BERG, D.W., "Systematic Collection of Beach Data," Sept. 1969.

Keywords: *Data collection; LEO*

In 1967, the U.S. Army Corps of Engineers and the State of California initiated a cooperative program to collect empirical data at selected locations along the California coast. The objective was to

establish a reservoir of repetitive, systematic observations by qualified personnel, with the hope of securing a better understanding of the physical characteristics of the California shore and the littoral processes occurring there.

R 1-70..702 003
MEISBURGER, E.P., and DUANE, D.B., "Shallow Structural Characteristics of Florida Atlantic Shelf as Revealed by Seismic Reflection Profiles," Oct. 1970.

Keywords: *Continental Shelf; ICONS; Seismic reflection*

During 1965-66, CERC collected 2600 statute miles of shallow and medium penetration seismic reflection profiles from the east Florida Continental Shelf as input to a long-range program to inventory offshore sand deposits. A general preliminary review of all geophysical profiles has been made to define broad regional aspects of shelf and subbottom morphology and to provide continuity and background for detailed studies of selected areas which are now in varying stages of completion.

R 2-70..703 583
DUANE, D.B., "Sand Inventory Program," Oct. 1970.

Keyword: *ICONS*

This paper describes CERC's continuing program to locate and delineate offshore deposits of sand suitable for beach restoration and stabilization. The exploration phase of this Sand Inventory Program utilizes seismic reflection profiling supplemented by coring of the marine bottom. After the exploration or data collection phase of the program has been completed, the taks is to define the characteristics, extent, and quantity of material existing offshore that meets criteria for use in shore protection work. The data collection phase of the sand inventory studies conducted by CERC to date include detailed and reconnaissance surveys of parts of New Jersey; the east coast of Florida; the New England area; the Norfolk, Virginia, area; and the south shore of Long Island.

R 3-70..706 469
SAVILLE, T., Jr., "Coastal Regime, Recent U.S. Experience," June 1970.

Keywords: *Breakwaters; Currents; Port structures*

This paper discusses recent laboratory and field studies in the United States which are considered pertinent to the development of a better understanding of the interaction of the beach and the littoral zones with and without manmade structures.

R 4-70..712 652
GALVIN, C.J., Jr., "Breaker Travel and Choice of Design Wave Height," May 1970.

This paper presents measurements of breaker depth and breaker travel for periodic waves breaking on plane laboratory slopes. It shows that, in the structural design of coastal works, breaker travel may significantly affect the choice of design wave height.

R 1-71..732 606
HARRIS, D.L., "The Analysis of Wave Records," Sept. 1971.

Keywords: *Gages, wave; Wave climatology*

Data obtained from two surface profile wave gages and two pressure wave gages at the Steel Pier in Atlantic City, New Jersey, are used to check the consistency of the analysis variables obtained from a given set of records by several commonly used analysis procedures.

R 2-71..732 637
ESTEVA, D.C., and HARRIS, D.L., "Comparison of Pressure and Staff Wave Gage Records," Sept. 1971.

Keywords: *Gages, wave; Wave climatology*

Simultaneous records from two pressure gages located at different depths, a step-resistance relay gage, and a continuous-wire staff gage have been collected at Atlantic City, New Jersey. Spectra and cross-spectra are computed using the fast Fourier transform algorithm method proposed by Cooley and Turkey (1965). Individual harmonics of the pressure energy spectra are compensated for pressure attenuation according to classical theory. Results indicate better agreement is obtained between the wave height and the spectra computed from the compensated pressure gages and those computed from the continuous-wire staff gage than between the two surface gages.

R 3-71..732 643
TELEKI, P.G., and ANDERSON, M.W., "Bottom Boundary Shear Stresses on a Model Beach, Sept. 1971.

Keywords: *Preston probe; Shear stresses*

The maximum amplitude of shear stress in the bottom boundary layer of water waves was evaluated with a Preston probe inclined on a 1:12.5-slope beach. Near-bottom velocity profiles were obtained in laminar and developing turbulent flow conditions from which the experimental boundary layer thicknesses were evaluated. Agreement between experimental bottom velocities and those calculated from Airy theory deteriorate with decreasing depth on the beach, resulting in lower shear-stress values than predicted by linear theory. The measured boundary layer thickness on the slope exceeds the predicted for horizontal bottom, increasing shoreward to some critical depth outside the breaker zone from where it decreases shoreward. The influence of roughness on the shear-stress distribution in considerable in the "offshore" region, but becomes negligible near the breaker zone. On a smooth bottom the coefficient of friction agrees with Kajiura's (1968) expression.

R 4-71..732 607
MADSEN, O.S., "Waves Generated by a Piston-Type Wavemaker," Sept. 1971.

Keywords: *Mathematical models; Piston-type wave generator; Wave characteristics*

When a wavemaker generates a finite number of waves, one of the first and one of the last waves in such a burst are considerably larger than the average. A mathematical model, based on the linearized governing equations, is used for the particular problem of waves generated by a sinusoidally moving piston-type wavemaker starting from rest. Theoretical results for the magnitude of the large wave relative to the average agree fairly well with experiments; however, the actual wave height is smaller in the experiments that predicted by theory. An extension of the classical wavemaker theory to second order shows that finite amplitude effects do not offer an explanation. However, pistons rarely fit the tank dimensions exactly, and an approximate evaluation indicates that the discrepancy between predicted and observed wave heights can be attributed to the effects of leakage around the piston.

R 5-71..732 645
DUANE, D.B., "Synoptic Observations of Sand Movement," Sept. 1971.

Keywords: *RIST; Sediment transport*

In recognition of the engineering need to better understand coastal processes, CERC, in cooperation with the Atomic Energy Commission(AEC), initiated a multiagency program to create a viable Radioisotopic Sand Tracer (RIST) program. In addition to the development of the techniques and technology necessary to trace nuclide-labeled particles in the marine environment, objectives of the program are (1) understanding the mechanics of sediment movement (both entrainment and transport), (2) patterns of movement, and (3) the volume of sediment movement. Field experiments have been carried out on straight coastal segments unaltered by engineering works as well as on coastal segments affected by engineering works, such as groins and harbor jetties.

R 6-71..732 608
BRASHEAR, H.R., et al., "Processing and Analysis of Radioisotopic Sand Tracer (RIST) Study Data," Sept. 1971.

Keywords: *Mathematical models; RIST; Sediment transport*

Data collected during the RIST field tests are processed through digital computers. Data treatment requires computing and plotting the detector position and correcting the corresponding radiation count rates for radioactive decay. The field data are recorded on punched paper tape, edited, and then transferred to magnetic tape for input to data reduction programs. The navigation data, which are in the form of distances to shore-based microwave responder beacons, are tested for spurious values by comparison with the theoretical maximum travel distances of the survey vehicle between successive fixes. The navigation

ranges are then converted to rectangular geographical coordinates. Present emphasis is in the development of computer programs to construct a count rate surface from data collected along track lines.

R 7-71..732 646
JAMES, W.R., "A Class of Probability Models for Littoral Drift," Sept. 1971.

Keywords: *Sediment tracer; Sediment transport*

The major goal in the development of sediment tracer technology is to produce an accurate method for the field measurement of short-term volume littoral rate. Many of the technical difficulties involved in tagging, injecting, and sensing the movement of radioisotope tracers in the littoral zone have been overcome by the RIST project. However, quantitative determination of volume drift rate requires more than knowledge of tracer position in time and space. A mathematical model is required to relate the flux of tracer material to the sediment flux. This paper presents a class of such models which lead to a particularly simple form for the calculation of littoral volume drift rate.

R 8-71..732 609
MAGOON, O.T., and SARLIN, W.O., "Effect of Long-Period Waves on Hydrographic Surveys," Sept. 1971.

Keywords: *Santa Cruz Harbor, CA; Surveying*

In conjunction with routine hydrographic surveys at Santa Cruz Harbor, California, bottom elevation discrepancies were observed which were not associated with positional errors. It was suspected that these errors were associated with long-period wave activity, common at this particular location on the Pacific coast. Hydrographic soundings are usually obtained by floating craft using either echo-sounding techniques or a "lead line." Both of these techniques utilize the instantaneous water surface at the survey boat as a datum reference, normally determined by a water level recorder. Based on the analysis of 50 repetitions of a well-monumented cross section in Santa Cruz Harbor, it was concluded that long-period waves affect the results of hydrographic surveys by slowly varying the datum plane. In the case of Santa Cruz Harbor, the maximum error due to this effect was ±1.5 feet.

R 1-72..746 365
THOMPSON, E.F., and HARRIS, D.L., "A Wave Climatology for U.S. Coastal Waters," May 1972.

Keywords: *Wave climatology*

CERC has operated wave gages along the Atlantic, Pacific, and gulf coasts of the United States for the past 20 years. Cumulative wave height distribution functions for 10 gage locations have been studied in the format of the exponential distribution. One complete year of data, at six observations per day, appears to give a reliable wave height distribution up to the 1-percent level of occurrence. Wave data

from shipboard weather reports have been compared to wave gage data and found to be of some use in describing long-term summaries of coastal wave height conditions.

R 2-72...755 178

WOODHOUSE, W.W., Jr., SENECA, E.D., and BROOME, S.W., "Marsh Building with Dredge Spoil in North Carolina," July 1972.

Keywords: *Dredging; Ecology*

The value of tidal marsh for shoreline protection and as a nursery ground and source of energy for a high proportion of commercial and sports fishery species has become widely recognized in recent years. Dredge spoil, produced in the maintenance of navigation channels within sounds and estuaries, may be a means of establishing new marsh to replace some of that which has been lost. Therefore, the possibility exists of combining two desirable objectives in one operation--the stabilization of dredge spoil and the establishment of new tidal marsh. This paper is a progress report on a study initiated in the fall of 1969 designed to explore this possibility.

R 3-72...754 869

WILLIAMS, S.J., and DUANE, D.B., "Regional Shelf Studies: A guide to Engineering Design," Sept. 1972.

Keywords: *Coastal structures; Continental Shelf; Geomorphology; ICONS*

The Innner Continental Shelf Sedimnet and Structure (ICONS) program been initiated by CERC to provide data for a comprehensive regional study of the geology, sedimentary processes, and foundation engineering character of the U.S. shore and Inner Continental Shelf. Main emphasis is directed toward locating and delineating sand resources potentially available for shoreline nourishment and toward geologic interpretation of the shelf history during the last 25,000 years. Basic data are derived by utilization of high-resolution, medium penetration, seismic reflection profiling and pneumatic vibratory coring devices. To date, 8,400 miles of seismic profiles and 1,200 sediment cores (<30 feet long) have been obtained from the Atlantic shelf off New England, Long Island, New Jersey, Delaware, Maryland, Virginia, North Carolina, and eastern Florida. Data coverage is confined to water depths of 30 to 150 feet, within approximately 15 miles of shore.

R 4-72...754 890

MAGOON, O.T., JARMAN, J.W., and BERG, D.W., "Use of Satellites in Coastal Engineering," Aug. 1972.

Keywords: *Remote sensing; Satellites*

A new concept, using earth satellites in data gathering, has been generated. These satellites may observe areas of the coast and adjacent seas during times when other methods of sensing are very difficult or essentially impossible. This paper describes the unmanned Earth Resources Technology Satellite (ERTS) and the manned Skylab Satellite.

R 5-72...754 868

GALVIN, C.J., Jr., "Finite-Amplitude Shallow-Water Waves of Periodically Recurring Form," Sept. 1972.

Keywords: *Waves characteristics*

Finite-amplitude, periodic, sinusoidal waves generated in constant-depth shallow water break down into two or more waves traveling at speeds dependent on their height. These waves are called solitons, and the amplitude of the larger wave temporarily decreases during the resulting interaction. This decrease in amplitude can be qualitatively explained by the acceleration and spreading of the larger wave when its leading edge encounters the deeper water of the smaller wave. The larger wave regains its initial amplitude on passing through the smaller wave. If followed long enough, the interacting solitons periodically assume the initial waveform. This paper qualitatively describes the significant features of solitons that can be learned from experimental measurements of waveform.

R 1-73...757 973

MAGOON, O.T., and SHIMIZU, N., "Use of Dolos Armour Units in Rubble-Mound Structures in the Arctic," Aug. 1973.

Keywords: *Armor units, Breakwaters; Dolos; Humbolt Bay, CA*

In the design of coastal structures subjected to high breaking waves, the designer finds that conventional structures constructed with natural stone became impracticable. When the design wave exceeds about 30 feet (10 meters), current practice normally dictates the use of concrete blocks of various shapes which are relatively more stable than stone. A review of published stability coefficients for armor units indicates that the dolos shape yields the most stable structure for a given weight of unit of any nonarticulated shape known. After review of published literature and laboratory testing, a design for rehabilitation of the seaward heads of the Humboldt jetties at the entrance to Humboldt Bay, California, was formulated using dolosse. A summary of results of the hydraulic model tests conducted for this project is presented in the paper.

R 2-73...757 974

HARRIS, D.L., "Characteristics of Wave Records in the Coastal Zone," Oct. 1973.

Keywords: *Wave characteristics*

Wave recordings are examined to evaluate the quality of wave data available from instruments and photos and to determine the extent to which the record analyses confirm or contradict speculation about wave characteristics published before many instrumental wave records were generally available.

R 3-73...757 975

WEGGEL, J.R., "Maximum Breaker Height," Nov. 1973.

Keywords: *Wave characteristics*

The largest breaking wave to which a coastal structure might be exposed often represents the critical design condition for that structure. Consequently, a knowledge of the geometry and kinematics of breakers resulting from specific deepwater waves is essential for both the functional and economic planning of shore protection works. Among the factors that determine the maximum breaker height are (1) The depth of water in which the structure is sited (2) the beach slope and bathymetry in front of the structure, including refraction effects and (3) the variables which describe the incident waves in deep water. Unfortunately, it is not as yet possible to adequately describe a breaking wave in mathematical form; hence an essentially empirical approach is usually adopted to describe geometry and kinematics of breakers. This paper reevaluates some available breaker data presented in a form easily applied to the solution of coastal engineering problems.

R 4-73..766 106
GALVIN, C.J., Jr., "Wave Breaking in Shallow Water," Mar. 1973.

Keywords: *Wave characteristics*

This paper summarizes empirical knowledge of the breaking process for reference by those preparing theoretical studies on the breaking process. The paper reviews physical results of theoretical investigations and experimental work on breaker type, maximum wave height, and breaker travel and attempts to synthesize the available information.

R 5-73..766 378
MAGOON, O.T., "Use of Earth Resources Technology Satellite (ERTS-1) in Coastal Studies," Apr. 1973.

Keywords: *Aerial photography; ERTS; Remote sensing*

This paper summarizes some of the possibilities of the use of ERTS-1 imagery in coastal studies. The material presented is preliminary and is a result of the synergistic contributions of personnel of the NASA-Goddard Space Flight Center and CERC.

R 6-73..766 379
HALLERMEIER, R.J., "Design Considerations for a 3-D Laser Doppler Velocimeter for Studying Gravity Waves in Shallow Water," Feb. 1973.

Keywords: *Instrumentation; Velocity measurements*

A laser velocimeter system using three frequency-modulated light beams and one detector for measurement of the instantaneous velocity vector in reversing flow is considered. An analysis of the scattering and detection processes by means of the Mie and optical mixing theories is outlined. A system proposed for gravity wave studies uses an argon-ion laser and three Bragg cells as a source and a photomultiplier

detector of the light backscattered from 0.2-micrometer-diameter spheres, introduced into the flow in a low concentration, and can measure local velocity vectors of magnitude between 0.1 and 3.0 minutes per second, with turbulent fluctuations of 1 percent or greater intensity.

R 7-73..765 889

SONU, C.J., and JAMES, W.R., "A Markov Model for Beach Profile Changes," Mar. 1973.

Keywords: *Markov process; Profiles*

An apparent complex time history of beach geometry can be described as a specific case of first-order Markov process. Under the assumptions that the profile transition is controlled only by random excitations from waves and that the transition probability is identical for all the possible states of beach profile, it is demonstrated that a beach profile time series contains cycles having negative binomial distribution. A simplified case in which the transition probability is taken as 1/2 (i.e., equal probability for either erosional or accretional transition for any profile state) is derived through both numerical simulation and theoretical derivation, the result of which shows reasonable agreement with field observations.

R 8-73..770 190

WEGGEL, J.R., "Maximum Breaker Height for Design," July 1973.

Keywords: *Wave characteristics*

The range of breaker heights to which a structure is subjected depends critically on the range of depths at the structure site, with the largest breaker occurring for the greatest depth at the site. This maximum design breaker height, H_b, is a function of depth at the structure, d_s, wave period, T, and the postconstruction beach slope, m, on which the structure is situated. The relationship between the above variables and breaker height must be based on empirical data since it is not possible at present to adequately describe breaking waves in mathematical terms. This paper presents a reevaluation of some previously published breaker data in order to establish this maximum breaker height and to present the results in a form easily applied to engineering design calculations.

R 9-73..774 269

BERG, D.W., and HAWLEY, E.F., "Time-Interval Photography of Littoral Phenomena," July 1973.

Keywords: *Newport, CA; Photography; Pt. Mugu, CA*

The collection of most data on littoral phenomena usually is based on the requirement of personnel and equipment actually being onsite for specific periods of time. An approach to minimize this requirement involves the use of a photographic technique, using time-interval cinematography. Two such systems have been used at sites in California, Pt. Mugu and Newport Beach. This method incorporates commercially available 16-millimeter motion picture cameras with automatic lenses,

remotely programed to shoot selected lengths of film at predetermined periods.

R 10-73..770 184
MASON, C., and SORENSEN, R., "Character and Stability of a Natural Tidal Inlet," July 1973.

Keywords: *Brown Cedar Cut, TX; Tidal inlets*

An environmental study was conducted at Brown Cedar Cut, a natural unstable barrier beach inlet connecting East Matagorda Bay, Texas, with the Gulf of Mexico. The objectives of this study were to determine the physical and hydraulic properties of the inlet, and to investigate the inlet's historical stability, as well as its short-term response to a number of physical processes.

R 11-73..770 192
HERRON, W.J., Jr., "Case History of Mission Bay Inlet, San Diego, California," July 1973.

Keywords: *Mission Bay, CA; Tidal inlets*

The Mission Bay Inlet was designed as a "nonscouring" entrance channel by the U.S. Army Engineer District, Los Angeles, in 1946. Construction of the inlet was completed in 1959 and the entire project in 1963. This case history was prepared under contract to CERC, and project data and aerial photos were obtained from the Los Angeles District and the City of San Diego.

R 12-73..770 181
GALVIN, C.J., Jr., "A Gross Longshore Transport Rate Formula," July 1973.

Keywords: *Mathematical models; Sediment transport*

This paper presents an empirical relation between gross longshore transport rate, Q_g , and the local mean breaker height, H , as a first approximation for engineering predictions. An hypothesis is also presented to explain the empirical relation.

R 13-73..770 179
DAS, M.M., "Suspended Sediment and Longshore Sediment Transport Data Review," July 1973.

Keywords: *Sediment transport*

A review of laboratory and field studies on suspended sediment under waves shows that although about five analytical or semiempirical approaches have been attempted to predict the vertical distribution of suspended sediment, none of the approaches has had its general validity proven. This is mainly due to the lack of knowledge about the characteristics of turbulence of the wave boundary layer and to the lack of a suitable suspended-sediment measuring technique for use in waves. Six different suspended-sediment measuring techniques have been used in the

studies reviewed. Although none of them gives completely reliable laboratory or field measurements, an optical system appears to show promise in obtaining information on the mechanics of suspension under waves.

R 14-73..770 191
FAIRCHILD, J.C., "Longshore Transport of Suspended Sediment," July 1973.

Keywords: *Nags Head, NC; Sediment transport; Ventnor, NJ*

An excess of 800 suspended sediment samples were collected from stations along City Pier, Ventnor, New Jersey, and Jennettes Pier, Nags Head, North Carolina, using a tractor-mounted pump sampler. Results are summarized in a series of scatter plots which relate suspended-sediment concentration to nozzle height, wave height, water depth, and sampling distance from an observed wave breaker line. Results are compared to CERC laboratory data, to two excerpted concentrations from unidirectional flow tests, and to CERC TR-4 design curve of longshore wave energy versus transport.

R 15-73..770 182
BALSILLIE, J.H., and BERG, D.W., "State of Groin Design and Effectiveness," July 1973.

Keyword: *Groins*

An annotated bibliography on groins (Balsillie and Bruno, 1972) has provided the background for this paper. A review of functional design criteria is presented including groin length, height, spacing, permeability-adjustability, and orientation. A discussion of coastal processes and their relationship to groin design and effectiveness is also given.

R 16-73..770 178
MAGOON, O.T., HAUGEN, J.C., and SLOAN, R.L., "Coastal Sand Mining in Northern California, U.S.A.," July 1973.

Keywords: *Sand mining*

This paper discusses the commercial mining of sand along the California coastline. This mining activity includes all methods of sand mining (dragline, self-propelled bottom-dump scrapers, diesel shovels, etc.) and may be classified by littoral zone locations as (1) mining from a beach foreshore or backshore area wetted by the normal tidal range, (2) mining within a river mouth or other estuary upstream from the ocean but still within the tidal zone, and (3) mining from bluff or dune areas not wetted by the normal range of tides but still within the littoral system.

R 17-73..770 194
MAGOON, O.T., and PIRIE, D.M., "Remote Sensing in the Study of Coastal Processes," July 1973.

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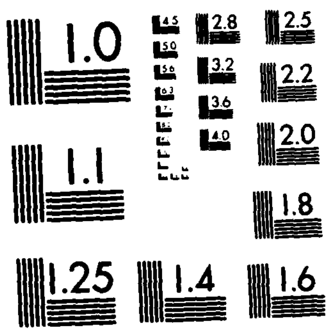

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Keywords: *Radar; Remote sensing; Sediment transport*

The quantifiable determination of important coastal parameters remotely rather than by in situ measurements combined with automatic data reduction and analysis will result in a greatly increased understanding of the parameters being studied. This paper gives a progress report on joint Corps of Engineers-National Aeronautics and Space Administration (NASA) efforts to apply remote sensing in coastal studies. The devices used were multiband photography, the infrared scanner, the Side-Looking Airborne Radar, and various image enhancement and processing devices.

R 18-73..770 183
MAGOON, O.T., PIRIE, D.M., and JARMAN, J.W., "Coastal Applications of the ERTS-A Satellite," July 1973.

Keywords: *ERTS; Remote sensing*

This paper describes the Earth Resources Technology Satellite (ERTS) placed in orbit in July 1972 and the ERTS simulation high-altitude aircraft flights which have been flown for approximately 1 year. The ERTS satellite and simulation programs conducted by NASA have been developed to demonstrate the techniques for efficient management of the Earth's resources. Results of the ERTS-A simulation flights flown at an altitude of 65,000 feet as related to coastal studies are also described. Simulations of both the RBV and MSS in coastal areas are presented.

R 19-73..770 166
GALVIN, C.J., Jr., and HALLERMEIER, R.J., "Wave Runup on Vertical Cylinders," July 1973.

Keywords: *Cylinders; Runup, wave*

As a wave passses a vertical cylinder, its shape, including its height, is affected by the presence of the cylinder. This paper presents measurements of wave height very near the surface of cylinders at selected cross sections. These experiments are motivated by the possibility that the wave height distribution around a cylinder can be used to measure wave direction. The height data in this paper are for periodic laboratory water waves propagating in one direction.

R 20-73..770 177
WEGGEL, J.R., "An Introduction to Oceanic Water Motions and Their Relation to Sediment Transport," 1973.

Keywords: *Fluid flow; Sediment transport*

A brief discussion of those aspects of fluid flow important in sedimentation studies is presented as an introduction to discussion of the physical principles governing fluid flows. Examples of how these principles manifest themselves in the oceans, the assumptions made in simplifying the governing equations, and in some cases how the flow is related to sediment movement are presented. Wave motions are discussed

with regard to their increasing ability to agitate bottom materials as waves move shoreward across the Continental Shelf. Examples of observed current phenomena and the assumptions made to simplify the governing equations are presented. The important implication for shelf sediment transport studies is that care must be exercised in extrapolating surface wind and current observations to the near-bottom currents that are important in moving sediments.

R 21-73..770 171
TELEKI, P.G., "Wave Boundary Layers and Their Relation to Sediment Transport," 1973.

Keywords: *Boundary layer flow; Sediment transport*

Sediment transport in the ocean is examined from the viewpoint of oscillating flows. Principles of both steady and unsteady boundary layers are reviewed and updated from recent experimental results. In the potential flow region the forcing function is represented by the combined effect of waves and currents. This paper is concerned mainly with wave-induced effects.

R 22-73..770 172
DUANE, D.B., et al., "Linear Shoals on the Atlantic Inner Continental Shelf, Florida to Long Island," 1973.

Keywords: *Atlantic coast; Continental Shelf; Shoaling*

The Atlantic Inner Continental Shelf from Long Island to Florida is characterized by fields of linear, northeast-trending shoals. The shoals exhibit up to 30 feet of relief, have side slopes of a few degrees, and extend for tens of miles. Clusters of linear shoals merge with the shoreface in water as shallow as 10 feet. Most of the shoals out to depths of 120 feet have been examined by means of seismic profiling, precision depth profiling, grab sampling, and coring; current monitoring has been conducted on a few shoals.

R 23-73..770 193
HARRIS, D.L., "Wave Estimates for Coastal Regions," 1973.

Keywords: *Wave climatology*

Significant information about wave climate can be obtained from aerial photos, instrument records, visual observations, and wave hindcasts based on weather charts. This paper describes the types of wave data that are presently available, or could be made available by established techniques. The principal concern is with observation and analysis procedures that are being or have been used extensively.

R 24-73..770 180
PILKEY, O.H., and FIELD, M.E., "Onshore Transportation of Continental Shelf Sediment: Atlantic Southeastern United States," 1973.

Keywords: *Continental Shelf; ICONS; Sediment transport*

Evidence indicates beach and estuarine sands from the southeastern U.S. Atlantic coast are derived in part from the adjacent Continental Shelf. Abundant anomalies on the shelf show a close correspondence to abundant anomalies in adjacent shoreline and nearshore environments. Carbonate content and textural parameters of beach and shelf deposits show a correlation between the two environments on a regional scale. Close correlation of shelf- and shore-sediment parameters may reflect ultimate derivation of sediment from similar sources or similar environments of deposition during Pleistocene sealevel fluctuations other than from onshore transportation.

R 25-73...773 930
WATTS, G.M., VALLIANOS, L., and JACHOWSKI, R.A., "Controlling Littoral Drift to Protect Beaches, Dunes, Estuaries, and Harbor Entrances," 1973.

Keywords: *Beach nourishment; Sediment transport*

This report describes the present techniques employed in the United States for controlling littoral drift for beach and dune stabilization, and stabilization of entrances to harbors and estuaries.

R 26-73...773 931
SAVILLE, T., Jr., "Report on Controlling Littoral Drift to Protect Beaches, Dunes, Estuaries and Harbor Entrances," 1973.

Keywords: *Beach nourishment; Sediment transport*

This report presents means of controlling littoral drift to protect beaches, dunes, estuaries, and harbor entrances and discusses the establishment of artificial beaches.

R 1-74...775 650
EVERTS, C.H., "Particle Overpassing on Flat Granular Boundaries," Nov. 1974.

Keywords: *Bedload; Sediment transport*

Under certain conditions, granular sediment moves as bedload over flat, loose, uniformly sized boundaries. This movement, designated here as overpassing, appears to occur without appreciably disturbing the stability of the boundary. An understanding of the overpassing mechanism will aid in defining the behavior of sand-size particles on a beach foreshore or other sedimentary surface.

R 2-74...775 561
TELEKI, P.G., WHITE, J.W., and PRINS, D.A., "A Study of Oceanic Mixing with Dyes and Multispectral Photogrammetry," Oct. 1974.

Keywords: *Currents; Remote sensing*

The possibility of studying coastal currents and turbulent mixing by remote sensing is investigated. In mixed regions it is essential to identify the soures of constituent water masses and their rates of

propagation and discharge. Spectral responses of water-tracing dyes to various film-filter combinations were investigated under field and laboratory conditions. Preliminary results indicate that conservative tracers which are spectrally stable can also be reconstructed in color composites, providing a label for water masses of varying origins.

R 3-74..775 651

TELEKI, P.G., RABCHEVSKY, G.A., and WHITE, J.W., "On the Nearshore Circulation of the Gulf of Carpentaria, Australia--A Study in Uses of Satellite Imagery (ERTS) in Remotely Accessible Areas," Oct. 1974.

Keywords: *Australia; ERTS; Gulf of Carpentaria; Remote sensing*

The Gulf of Carpentaria was studied from ERTS imagery for August 1972 to January 1973. This inland sea was chosen as the test site to assess the usefulness of satellite imagery to the mapping of hydrologic parameters in areas of difficult access. The examination of the contents of MSS channels 4, 5, and 6, enhancements of these bands, and density slicing in two test areas indicates that sediment dispersal can be studied and mapped on a seasonal basis. Transport directions for coastal sediments in the months of August, November, and January were found to corroborate Cresswell's hypothesis about the bidirectional nature of nontidal currents along the east coast of the gulf. Accordingly, this current is northerly during the influx of type C water, changing to southerly when type B water enters the gulf.

R 4-74..777 706

BRUNO, R.O., and HIIPAKKA, L.W., "Littoral Environment Observation Program in the State of Michigan," 1974.

Keywords: *Lake Michigan; LEO*

Over the past 6 years CERC has recorded visual observations at selected ocean beach sites of waves and surf, nearshore currents, winds, and beach geometery. This program, known as the Littoral Environment Observation (LEO) program, has now been initiated in the Great Lakes. Data are collected through a cooperative effort between the Corps of Engineers (CERC and U.S. Army Engineer District, Detroit) and the State of Michigan (Department of Natural Resources). After a pilot program on Lake Michigan in the fall of 1971, the program was extended in May 1972 to include 20 State parks throughout the State on Lakes Superior, Huron, and Erie as well as Lake Michigan.

R 5-74..A002 112

PEACOCK, H.G., "CERC Field Wave Gaging Program," Sept. 1974.

Keywords: *Gages, wave*

The wave gaging program at CERC has been in operation since 1948. Initially, the step-resistance staff gage was the principal field wave gage. Later, the pressure-sensitive gage was added. Although improved versions of these gages are still in use, the step-resistance gage is now being replaced by the parallel inductive cable gage. The wave

measuring program has expanded from two gages at Atlantic City, New Jersey, to 21 gages at 17 different locations at present. The data collected are used in CERC's wave and beach processes research, and routinely made available to the Corps of Engineers offices. In addition, data summaries are furnished interested persons or groups on written request.

6-7 .... AD02 113
HARRIS, D. L., "Finite Spectrum Analyses of Wave Records," Sept. 1974.

Keywords: [illegible], [illegible], Waves (hydrodynamics)

Quantitative descriptions of wave characteristics are needed for engineering design and for basic studies of wave generation and wave mechanics. The main problem in wave analysis is presenting the information of value for each application in the most convenient form. A derivation of the essential equations of spectrum analysis, with fewer restrictive assumptions and more direct application to ocean wave analysis, is presented in this paper.

6-7 .... AD02 114
THOMPSON, E.F., "Results from the CERC Wave Measurement Program," Sept. 1974.

Keywords: [illegible], Spectral, Waves (hydrodynamics)

A useful result from the digital analysis of wave records is significant wave height and wave period corresponding to the highest density of [illegible] energy. Another potentially useful result is the wave energy spectrum which is computed with a fast Fourier transform algorithm. This paper discusses CERC methods of collecting, analyzing, and summarizing digital wave records, provides perspective on the uses and limitations of CERC's shallow-water wave energy spectra, and discusses the applicability of the Rayleigh distribution function for describing the distribution of individual wave heights under a variety of shallow-water conditions.

8-7 .... AD02 900
[illegible], R.F., and JAMES, W.R., "Development of a Shallow-Water Wave Direction Gage," Sept. 1974.

Keywords: Gages, [illegible], Instrumentation

This paper is a status report on an effort to develop a nearshore wave direction gage with a novel principle of operation. This point direction gage uses a thin pile in fairly shallow water to nonlinearly, but regularly, transform each steep incident crest, momentarily forming a bow wave. A few water level gages deployed around the pile sense the bilaterally symmetric transformation, and then the symmetry direction of a data set from the gages is electronically estimated. Preliminary laboratory tests have indicated direction measurements of high precision may be made from a few data on peak water level at a pile.

R 9-74..A014 216
TELEKI, P.G., and PRINS, D.A., "Photogrammetric Experiments on Nearshore Mixing and Diffusion," Aug. 1974.

Keywords: *Aerial photography; Currents; Remote sensing*

Aerial multispectral photography and fixed-point metering were used in the study of coastal currents at two sites in California. The system combining current meters, low-altitude photography, and photodensitometric analysis of the suspended matter or tracer dyes is well suited to the study of both advective and diffusive processes in the ocean. Experiments were conducted near marine structures to understand their influence on coastal circulation.

R 10-74...A003 776
MASON, C., "Regime Equations and Tidal Inlets," Aug. 1974.

Keywords: *Tidal inlets*

Selected regime equations for stable channel cross-sectional areas are compared to an empirical relationship for stable tidal inlet areas. Using an equivalent steady discharge to represent the tidal flow, good agreement is exhibited between the most generalized regime and a tidal prism-versus-area formula. Although the controlling hydraulic conditions in each case are distinctly unique, the agreement appears to be more than fortuitous.

R 11-74...A010 751
CHESNUTT, C.B., and GALVIN, C.J., Jr., "Lab Profile and Reflection Changes for H_o/L_o = 0.02," June 1974.

Keywords: *Movable-bed modeling, Profiles*

Wave heights in movable-bed coastal engineering laboratory experiments vary both in space and in time, as illustrated in this paper. Such variability is common over the constant depth section of wave tanks with movable beds.

R 12-74...A010 752
EVERTS, C.H., DeWALL, A.E., and CZERNIAK, M.T., "Behavior of Beach Fill at Atlantic City, New Jersey," June 1974.

Keywords: *Atlantic City, NJ; Beach nourishment*

A beach-monitoring program between 1962 and 1972 at Atlantic City, New Jersey, was designed to observe the response of beaches to waves and tides of specific intensity and duration as a first step in developing a storm-warning system for low-lying coastal communities. The behavior of beach sand following two beach replenishment projects in 1963 and 1970 was also determined.

R 13-74...A010 753
JAMES, W.R., "Beach Fill Stability and Borrow Material Texture," June 1974.

Keywords: *Beach nourishment*

The dependence of beach-fill stability on the textural properties of borrow material requires development of quantitative methods for use in the selection of borrow areas and in the prediction of possible maintenance costs associated with periodic renourishment. If a shore segment is viewed as a sediment mass transfer system, where grains of different sizes have different transport rates, then termination of natural sediment input to the shore segment will cause the beach to recede and the materials in the active zone will become coarser. The ratio of retreat rates associated with a given borrow material texture to that associated with native material can be used in optimizing economic factors involved in selecting potential borrow zones.

R 1-73...[illegible] 387
SAVILLE, T., Jr., [illegible], and [illegible], "The Coastal Engineering Research Center," Dec. 1973.

Keywords: CERC

This paper describes CERC's research mission and testing facilities. Research is conducted in five general areas: wave and water level characteristics, sediment transport, erosion, and shoaling, functional and engineering design of coastal projects, including their effects on the physical and biological environments, ecological engineering and the mitigation or enhancement of these effects, and the translation of the results into a usable form.

R 2-73...[illegible] 386
WILLIAMS, S.J., and DUANE, D.B., "Construction in the Coastal Zone - A Potential Use of Waste Materials," Aug. 1973.

Keywords: *Geological Science, Dredging, New York Bight*

The inner New York Bight, at the head of the Hudson shelf channel, has been the site for ocean disposal of various waste products since [illegible]. This paper suggests that large volumes of waste materials are available from the ocean bottom in the New York Bight area for construction purposes. This material may be available at a potentially lower unit cost and with possible environmental benefits.

R 3-73...[illegible] 507
CHESNUTT, C.B., "Laboratory Effects in Coastal Movable-Bed Models," Dec. 1973.

Keywords: *Prototype models, Movable-bed modeling*

Both scale and laboratory effects can hinder attempts to solve coastal engineering problems with movable-bed models. Scale effects are the undesired differences between laboratory and prototype conditions caused by the practical impossibility of simultaneously modeling in the laboratory all the forces acting in the prototype. For example, it is impossible to model both the Froude and Reynolds numbers. Laboratory effects are the undesired differences between laboratory and

prototype conditions caused by the physical constraints which exist in the laboratory, but not in the field. This paper discusses differences in movable-bed coastal model results and laboratory effects, due to varying the initial profile slope, the initial flat length (distance from the wave generator to the initial SWL intercept), and the water temperature.

R 6-75..AD-A019 511
COLLINS, J.I., and CHESNUTT, C.B., "Tests on the Equilibrium Profiles of Model Beaches and the Effects of Grain Shape and Size Distribution," Dec. 1975.

Keywords: *Movable-bed modeling, Profiles*

Noda proposed a two-dimensional coastal movable-bed scale-model relationship with four basic scale ratios: horizontal scale, vertical scale, sediment-size ratio, and relative specific weight ratio. This study was conducted to investigate the effects of the model sediment-size distribution and particle shape in movable-bed models. An experimental evaluation of the scale model relationship was also given.

R 76-1..AD-A029 775
EVERTS, C.H., "Shoaling Rate Prediction Using a Sedimentation Tank," June 1976.

Keywords: *Sedimentation tank, Shoaling*

A sedimentation tank was placed on a tidal flat near Anchorage, Alaska, as an in situ instrument to obtain the shoaling rate that would be expected in an enclosed harbor. A foreknowledge of the shoaling rate is necessary to predict future harbor maintenance expenses. The study evaluates the sedimentation tank as an instrument to measure the shoaling potential of a region in or adjacent to an estuary.

R 76-2..AD-A029 726
AHRENS, J.P., and McCARTNEY, B.L., "Wave Period Effect on the Stability of Riprap," June 1976.

Keywords: *Riprap; Runup, Waves*

Test data on the stability of dumped quarrystone riprap to wave attack are presented and analyzed. The tests were conducted in the large two-dimensional wave tank at CERC at near-prototype scale. The test data show riprap stability changes with wave period with the lowest stability occurring at a period that creates a collapsing breaker. Methods to predict riprap stability and wave runup on riprap are developed and discussed.

R 76-3..AD-A029 739
TELEKI, P.G., MUSIALOWSKI, F.R., and PRINS, D.A., "Data Acquisition Methods for Coastal Currents," June 1976.

Keywords: *Currents; Data collection; Instrumentation*

Design criteria for the type and location of coastal engineering structures depend heavily on the understanding of nearshore processes and the evaluation of the ranges of significant parameters such as waves, currents, and sediment transport. [illegible] of these parameters in and around the zone of breaking waves has been difficult because of the lack of [illegible] instruments and [illegible], mobility, and adequate experimental designs. To answer some of the previous shortcomings, a [illegible] System (TOMAS) has been [illegible] of [illegible] and wave data.

[illegible]
[illegible], and MASON, C., "[illegible] Response [illegible]," June 1975.

Keywords: [illegible]

[illegible] paper [illegible] response of [illegible] of single [illegible] to [illegible] and [illegible] structures.

[illegible]
[illegible] Engineering in the Coastal Zone," [illegible] 1976.

Keywords: [illegible]

Nearly [illegible] percent of all marine construction takes place in water less than [illegible] meters deep. The geotechnical engineering aspect of this construction, and of coastal zone sediments in general, has a significant [illegible] for designers and individuals and agencies charged with [illegible] coastal zone activities in the public interest. The U.S. Army Corps of Engineers is one of the Federal agencies concerned with the coastal zone. [illegible] organizations, particularly CERC, support this effort. [illegible] its mandate to plan, conduct, and [illegible] the results of coastal engineering research as a source of [illegible] and engineering data and design methods for use by the Corps, CERC has [illegible] part of its research program to [illegible] support Corps Divisions and Districts in dealing with [illegible] engineering problems.

[illegible] AD/A05 667
[illegible], "Sediment [illegible] Method," Dec. 1977.

Keywords: [illegible], [illegible], [illegible], Sediment transport, Shoaling

Harbor shoaling becomes a significant problem when coastal waters are laden with suspended solids and the tidal range is high. Because of [illegible] from the rivers and [illegible] are conditions which exist along much of the [illegible] coast, some small-craft harbors are constructed as [illegible] adjacent to, rather than within, navigable waterways. Determination of the shoaling rate and relative importance of factors involved in the shoaling process is essential to

the effective design of these harbors. This report describes the history and processes of shoaling observed during the ice-free season at an enclosed small-craft harbor at Dillingham, Alaska, since its construction in 1961. Results of a study of the shoaling process during the winter ice-cover season at Dillingham Harbor are also presented.

R 77-2...AD38 079
SAVILLE, T., Jr., "Application of Wave Climatology and Data for Design," Mar. 1977.

Keywords: Wave climatology

This paper discusses the importance of wave data for coastal engineering considerations and points out some of the types of application. The following topics are discussed: (1) Difficulties in gathering data, (2) definition and analysis of data, (3) determination of what is needed, and (4) application of the data to design and prediction.

R 77-3...AD39 101
JAMES, W.R., and HALLERMEIER, R.J., "Nearshore Wave Direction Gage," Apr. 1977.

Keywords: Gages, wave, instrumentation

The distribution of incident wave energy density with frequency and propagation direction is important in ocean and coastal engineering problems. For example, incident wave height, period, and direction together govern onshore-offshore and longshore sediment transport in the available treatments. Records from several types of water level sensors have been used to measure the distribution of wave energy density with frequency, but techniques for wave direction measurement still require development. This paper presents research exploring a suggestion that wave runup on a vertical cylinder might be used to measure wave direction, because of the runup's symmetry about wave direction.

R 77-4...AD38 706
HALLERMEIER, R.J., "Nonlinear Flow of Wave Crests Past a Thin Pile," Apr. 1977.

Keywords: Piles, Wave transformation

This paper gives data from laboratory experiments designed to investigate surface wave transformation at a thin, circular vertical pile (with diameter D_p, much less than a wavelength, L). These data establish the nature of a nonlinear wave crest transformation and the range of variation in peak water level around the pile caused by one crest.

R 77-5...AD40 508
NAKATO, T., et al., "Wave Entrainment of Sediment from Rippled Beds," May 1977.

Keywords: Bed forms; Sediment transport

Water wave-induced motion of sand and other sediments is a topic of great practical importance to coastal engineers because of its central role in the transport of sediment in littoral zones. The objective of the primarily experimental investigation reported here was to examine and elucidate the mechanism of sediment suspension from rippled sediment beds by periodic fluid motions. The study was carried out in an oscillatory-flow tunnel that was especially designed and built to facilitate the use of modern techniques for the simultaneous measurement of suspended sediment concentration and velocity. The instrumentation utilized included an LSI 11 data acquisition and control system, an electro-optical system for measurement of suspended sediment, and a hot-wire anemometer.

[illegible] .... [illegible]
BRUNO, R.O., and GABLE, C.G., "Longshore Transport at a Total Littoral Barrier," July 1977.

Keywords: Channel Islands, Harbor, CA; Sediment transport

The relation between longshore material transport and nearshore wave energy flux (energy) is of vital interest to coastal engineers concerned with design and maintenance of navigation and beach erosion control projects. Past field and laboratory studies have produced an empirical relationship now widely used. However, these studies were conducted in areas where total transport may not have been measured. In this study, Channel Islands Harbor, California, was selected because an offshore breakwater and jetties form a unique sand trap. This site is considered a nearly total littoral barrier to longshore transport. The objective of this study is to reevaluate the empirical relationship between nearshore wave energy and longshore material transport.

[illegible] AD-A042 670
WEGGEL, J.R., "Wave Overtopping Equation," July 1977.

Keywords: Overtopping; Wave; Waves; [illegible]

This paper evaluates existing wave overtopping data, reanalyzes it, and derives an empirical expression in dimensionless form. The effect of model scale on the test results is also investigated.

[illegible] AD-A051 570
SCHNEIDER, C., "Visual Surf Observations/Marineland Experiment," Feb. 1978.

Keywords: Currents; LEO; Marineland, FL; Wind

During November-December 1977, a complex research experiment was conducted at Marineland, Florida. The experiment was sponsored by the National Aeronautics and Space Administration (NASA) and the Jet Propulsion Laboratory (JPL) and was designed to test instrumentation that will be used on board the SEASAT-A satellite to be launched in 1978.

As a part of this larger SEASAT-A experiment, it was decided to obtain wave and nearshore current data collected in accordance with techniques developed under the Littoral Environment Observation Program (LEO). This paper reports on results from this data collection effort.

R 78-2..A051 571
KNUTSON, P.L., "Designing for Bank Erosion Control with Vegetation," Feb. 1978.

Keywords: *Erosion; Vegetation*

Marsh plants are effective in stabilizing eroding banks in sheltered coastal areas. Exceptional results have been achieved in a variety of intertidal environments at a fraction of the cost required for comparable structural protection. Techniques are available for the efficient propagation of several marsh plants for use in bank stabilization. This paper provides design criteria for (1) determining site suitability, (2) selecting plant materials and planting methods, and (3) estimating labor requirements on a project basis.

R 78-3..A051 572
JARRETT, J.T., "Sediment Budget Analysis, Wrightsville Beach to Kure Beach, N.C.," Feb. 1978.

Keywords: *Budget, sediment; Longshore energy flux; Refraction, wave; Sediment transport*

Littoral transport rates and inlet bypassing quantities were estimated for a 19-mile (30.6-kilometer) segment of the North Carolina coast extending from Wrightsville Beach southward to Kure Beach, by adopting a sediment budget approach. The steps involved in the sediment budget analysis were: (1) an estimate of volumetric changes along the shorelines and in the inlets, (2) wave refraction analysis to determine the distribution of longshore wave energy flux along the shoreline, and (3) a correlation of the volume changes with the computed longshore energy flux distribution. The base period used for this analysis was from 1966 to 1974. After the material transport rates were determined, an evaluation was made of the changes in shore processes resulting from man-induced alterations in the shoreline configuration.

R 78-4..A051 573
DeWALL, A.E., and RICHTER, J.J., "Beach and Nearshore Processes in Southeastern Florida," Feb. 1978.

Keywords: *Beach Evaluation Program-CERC; Boca Raton, FL; Hollywood, FL; Jupiter, FL; LEO; Profiles; Sediment transport*

From January 1969 to June 1973 Florida Ocean Sciences Institute, Inc. (FOSI) collected data on beach changes and littoral processes at three southeastern Florida coastal localities, under contract with the Coastal Engineering Research Center (CERC). The study was carried out as part of CERC's Beach Evaluation Program (BEP). The study was conducted to accumulate, in a systematic fashion, information regarding

winds, waves, and currents in the nearshore environment and to relate these factors to observed changes in beach profiles along Florida's southwestern coast. A total of 4,898 beach profile surveys and 1,560 littoral environment observations were collected at the beaches of Jupiter, Boca Raton, and Hollywood, Florida.

R 78-5 .... A051 574

GILES, M.L., "Evaluation of a Concrete Building Block Revetment," Feb. 1978.

Keywords: *Armor units; Concrete blocks; Revetments*

This paper presents the results of a two-dimensional laboratory evaluation of a beach revetment plan that uses common concrete building blocks as the revetment armor unit. This type of revetment is appropriate for use along semiprotected shorelines on bays, reservoirs, lakes, and other areas exposed to low to moderate wave attack. The research was conducted at prototype scale in the two-dimensional large wave tank (LWT) facility at the Coastal Engineering Research Center (CERC).

R 78-6 .... A051 575

SCHWARTZ, R.K., and MUSIALOWSKI, F.R., "Nearshore Disposal: Onshore Sediment Transport," Feb. 1978.

Keywords: *Beach nourishment; Dredging; New River Inlet, NC; Profiles; Sediment transport*

New dredge-disposal techniques may serve the dual role of aiding (1) sand bypassing across coastal inlets and (2) beach nourishment provided that dredged sediments placed seaward of the surf zone move shoreward into that zone. During summer 1976, 26,750 cubic meters of relatively coarse sediment was dredged from New River Inlet, North Carolina, moved downcoast using a split hull barge, and placed in a [illegible]-meter coastal reach between the 2- and 4-meter depth contours. Bathymetric changes on the disposal piles and in the adjacent beach-nearshore area were studied for a 13-week period to determine the modification of the surrounding beach-nearshore profile and the net transport direction of the disposal sediment.

R 78-7 .... A051 576

HANDS, E.B., "Implications of Submergence for Coastal Engineers," Feb. 1978.

Keywords: *Lake levels; Lake Michigan; Submergence*

Submergence affects most U.S. shorelines and has created serious problems in many localities by increasing flooding, accelerating erosion, altering surface drainage, and causing structural damage. This paper presents selected examples illustrating the problems engineers face in areas of coastal submergence and discusses in general how sea level changes affect long-term shore processes.

R 78-8..A051 577

BRUNO, R.O., WATTS, G.M., and GABLE, C., "Sediments Impounded by an Offshore Breakwater," Feb. 1978.

Keywords: *Breakwaters; Channel Islands, CA; Sediment transport*

The breakwater and entrance jetties for the Channel Islands Harbor in California form a total littoral barrier to longshore sand transport. The sand impounded by these structures was monitored by repetitive bathymetric surveys and systematic surface sand sampling. This paper discusses patterns of sediment deposition behind an offshore breakwater. Data collected were studied to determine if the deposition observed agrees with that predicted before construction. Both the geometry and size distribution of the deposition sediment are examined.

R 78-9..A051 578

EVERTS, C.H., and CZERNIAK, M.T., "Spatial and Temporal Changes in New Jersey Beaches," Feb. 1978.

Keywords: *Beach Evaluation Program-CERC; Long Beach Island, NJ; Ludlum Island, NJ; Profiles; Storms*

As part of a long-term study of beach characteristics made under the CERC Beach Evaluation Program (BEP), more than 4400 beach profiles were obtained at 48 locations on three New Jersey barrier islands over a 10-year study period. The data represent a rare record of beach changes over a long survey period and over a long stretch of beach. Consequently, they provide a unique opportunity to investigate beach changes as a function of their spatial and temporal qualities. Using 4400 beach profiles as a data base, average shoreline position and beach volume changes were computed and are presented in this paper. Although the data include beach changes only above the mean sea level elevation and the results are site-specific with regard to the magnitude of the beach changes, they provide valuable insight into the long-term characteristics of sandy ocean beaches.

R 78-10...A051 579

HOBSON, R.D., "Sediment Handling and Beach Fill Design," Feb. 1978.

Keywords: *Beach nourishment; Dredging; New River Inlet, NC; Rockaway Beach, NY*

Beach nourishment is one engineering solution for protecting coastal regions from the effects of long-term erosion and from short-term erosive damage caused by specific storms or hurricanes. It is also a fairly popular shore protection solution in the United States because nourishment tends to maintain the aesthetics and enhance the recreational character of an area, plus the Federal Government provides substantial funding support for many of these projects. Today, fill sediments are often "borrowed" from offshore areas. This paper presents results, to date, of an ongoing effort to quantify and predict sediment losses associated with the nourishment of beaches from offshore borrow sources.

R 78-11...A051 796
HANDS, E.B., "Some Data Points on Shoreline Retreat Attributable to Coastal Subsidence," Mar. 1978.

Keywords: *Lake levels; Lake Michigan; Profiles; Submergence*

Coastal subsidence increases flooding in low-lying coastal regions. Moreover, it disturbs the equilibrium profile and allows waves to erode bluffs formerly above the reach of wave uprush. Ensuing adjustment of the profile drives the shoreline farther landward. Guidance is needed for obtaining quantitative estimates of the shore's response. This paper estimates the effects of coastal subsidence using, first, data on Lake Michigan shore retreat during 4 years of rapidly rising lake levels and, second, historic data on the 120-year retreat rates along sections of the lake experiencing different rates of relative subsidence.

R 78-12...A062 304
KNUTSON, P.L., "Planting Guidelines for Dune Creation and Stabilization," Nov. 1978.

Keywords: *Dunes; Fences, sand; Vegetation*

This paper provides guidelines for creating and stabilizing foredunes with vegetation. The guidelines are based on more than two decades of field studies conducted by the Coastal Engineering Research Center and others. Specific information is given on recommended plant species, planting techniques, fertilization rates, labor requirements, and expected dune growth rates.

R 78-13...A061 439
ECKERT, J.W., "Design of Retention Structures for Marsh Habitats," Nov. 1978.

Keywords: *Dikes; Dredging*

In years past, all materials discharged from a dredge were termed spoil, a substance whose major value was for landfills. However, in the last 20 years the number of acceptable landfill disposal sites has dwindled, making the disposal of dredge spoil a major problem. One of the specific goals of the resulting research program established by the U.S. Army Engineer Waterways Experiment Station's (WES) Dredged Material Research Program (DMRP) was to develop, test, and evaluate new concepts for marsh development. In achieving this goal the Coastal Engineering Research Center (CERC) has assisted WES by evaluating (1) potential in-water containment structures for marsh creation using dredged material and (2) the parameters to which they must be designed. This paper is a discussion of the parameters used in selecting and designing a retaining or protective structure and a look at the two structural types most used to date.

R 78-14...A062 302
JOHNSON, G.F., et al., "Ecological Effects of an Artificial Island," Nov. 1978.

Keywords: *Artificial islands; Fauna; Fish; Rincon Island, CA*

The armor rock revetments of Rincon Island represent a significant addition of solid substratum to the local nearshore marine environment which has contributed to an enhancement in the richness of local marine communities. No comprehensive delineation of major habitats nor detailed characterization of communities extant at any one time or on a seasonal basis have been accomplished. This study was undertaken with the recognition that this information would be of value in furthering understanding of ecological consequences of construction of artificial islands in the coastal environment.

R 79-1..A067 491
WILLIAMS, S.J., "Geologic Effects of Ocean Dumping on the New York Bight Inner Shelf," Mar. 1979.

Keywords: *Dredging; Geomorphology; New York Bight; Seismic reflection*

High-resolution seismic reflection records, sediment cores and deep borings, and comparison of bathymetric charts from 1845 to 1973 provide evidence that ocean dumping of assorted solid materials has significantly filled parts of the Hudson shelf channel, and is an important geologic process. Ocean disposal of natural and man-made wastes was officially initiated seaward of New York Harbor in 1888 to relieve health problems, congestion and accelerated shoaling of navigation channels long associated with uncontrolled disposal within the city and adjacent waterways. Records show that about 850 million cubic meters of liquid and solid wastes have been dumped in the past 85 years. This paper examines the physical character of the New York Bight presently and during the past almost nine decades to decipher the geologic and long-lasting effects that dumping has had on the Inner Continental Shelf area seaward of New York City.

R 79-2..A070 554
BIRKEMEIER, W.A., "The Effects of the 19 December 1977 Coastal Storm on Beaches in North Carolina and New Jersey," June 1979.

Keywords: *Currents; Dare County, NC; Data Collection; Long Beach Island, NJ; Ludlam Island, NJ; Profiles; Storms*

In 1975, a field-oriented project was initiated to study coastal storms and to predict their effects. The fieldwork concentrated on isolating the effects of individual storms through prestorm and post-storm beach surveying and observations during the storm. This report discusses the results of a significant coastal storm which occurred 19 December 1977 along the east coast of the United States. The effect of the storm was monitored at three localities--Long Beach Island, New Jersey; Ludlam Island, New Jersey; and Dare County, North Carolina.

R 79-3..A073 276
EVERTS, C.H., "Beach Behavior in the Vicinity of Groins--Two New Jersey Field Examples," Aug. 1979.

Keywords: *Cape May, NJ: Groins; Sea Isle City, NJ; Sediment transport*

This paper discusses the behavior of beaches within and adjacent to groin systems located at Sea Isle City and Cape May, along the southern shore of New Jersey. Downdrift erosion prevails at each location, but beach behavior within and updrift of the groin systems is dissimilar.

R 79-4..A073 277
HURME, A.K., "Rubble-Mound Structures as Artificial Reefs," Aug. 1979.

Keywords: *Artificial reefs; Breakwaters; Rincon Island, CA*

Corps of Engineers rubble-mound structures are ideal artificial reefs because they are built of natural stone and have many varying sized cracks and crevices exposed to the entire water column so they can be colonized by the greatest diversity of reef dwellers. They are marked to aid navigation and do not constitute a hazard to commercial fishing.

R 79-5..A073 302
WEGGEL, J.R., ROBERTS, J., and HAGAR, J., "Wave Action on the Savannah Tide Gates," Aug. 1979.

Keywords: *Savannah, GA; Tide gates; Tides; Wave forces*

The Savannah River at Savannah, Georgia, is divided into two channels by Hutchinson Island. The Front River, relatively narrow and deep, serves as a navigation channel for waterborne commerce. In contrast, the Back River is broad and shallow and not suitable for navigation. To minimize the need for maintenance dredging in the Front River navigation channel, the U.S. Army Engineer District, Savannah, constructed a series of 14 tide gates in a tide-gate structure across the Back River. This paper discusses computations made to evaluate the effect of wind-generated water waves on the motion of the gates and on the resulting forces in the gate pivots and in the hydraulic cylinders.

R 79-6..A073 313
PERLIN, M., "Predicting Beach Planforms in the Lee of a Breakwater," Aug. 1979.

Keywords: *Breakwaters; Diffraction, wave; Mathematical models; Refraction, wave*

A numerical model is presented which predicts beach planforms in the lee of detached offshore breakwaters. The method of solution is a one-line implicit finite-difference scheme. Both diffraction and refraction are taken into account. Simulations of three physical models of breakwaters are presented. Dimensionless, theoretical situations are also investigated.

R 79-7..A074 643
FIELD, M.E., et al., "Upper Quaternary Peat Deposits on the Atlantic Inner Shelf of the United States," Sept. 1979.

Keywords: *Atlantic coast; Geomorphology; Inner Continental Shelf; Peat deposits; Radiocarbon dates*

Twenty-one upper Quaternary peat samples were obtained from vibracores collected along the Inner Continental Shelf of the Atlantic coast of the United States. Radiocarbon ages and pollen identifications from the peats, coupled with those from onshore borings and published data, provide additional information on the latest history of the Atlantic shelf. The radiocarbon ages cluster in two groups: early and middle Holocene time (10,000 to 5,000 B.P.) and late Pleistocene time (35,000 to 20,000 B.P.).

R 79-8 .... A077 230
MATTIE, M.C., and HARRIS, D.L., "The Use of Imaging Radar in Studying Ocean Waves," Nov. 1979.

Keywords: *Aerial photography; Radar Waves*

This paper gives examples showing that it is often possible to obtain useful images of the nearshore ocean wave field with X-band based radar. The physical principles involved in the use of radar to image the wave field have been simply described. A comparison of wave direction, wavelength, and period estimates obtained with the surface-based radar and similar data obtained by other more expensive means shows that the information obtained with radar is comparable in quality with similar data obtained by other means. Practical procedures for overcoming some of the more mundane technical difficulties associated with routine data collection are discussed.

R 79-9 .... A077 228
HOBSON, R.D., and JAMES, W.R., "Importance of Handling Losses to Beach Fill Design," Nov. 1979.

Keywords: *Beach nourishment; New River Inlet, NC; Rockaway Beach, NY*

Beach nourishment models, commonly employed by the U.S. Army Corps of Engineers, compare textural properties of native beach and dissimilar borrow sediments to determine overfill and renourishment requirements for beach-fill projects. It has been assumed that the texture of borrow sediments is unchanged by dredging and handling operations, but investigations have shown that significant handling losses do occur. This paper presents results from four field studies documenting textural changes caused by dredging and sediment handling at Rockaway Beach, New York, and at New River Inlet, North Carolina.

R 79-10 .... A077 231
SEELIG, W.N., and SORENSEN, R.M., "Numerical Model Investigation of Selected Tidal Inlet-Bay System Characteristics," Nov. 1979.

Keywords: *Mathematical models; Sediment transport; Tidal inlets*

A spatially integrated one-dimensional numerical model of inlet-bay hydraulics was combined with a simple sediment transport model to investigate selected tidal inlet-bay system characteristics. A parametric study was performed using the models to determine the effect of various factors on the net direction and order of magnitude of inlet

channel flow and sediment transport. Factors considered include astronomical tide type, storm surge height and duration, variation in bay surface area, time-dependent channel friction factor, and the addition of a second inlet connecting the bay and sea.

R 79-11..A077 232
HALLERMEIER, R.J., "Uses for a Calculated Limit Depth to Beach Erosion," Nov. 1979.

Keywords: *Erosion; Sediment transport; Shoaling*

A sediment entrainment parameter is used to calculate maximum water depth for intense bed agitation by shoaling linear waves of given height and period. Calculated limit depths agree with available laboratory measurements of water depth at an erosive wave cut into slopes of quartz and other fine sediments. On natural seasonal beaches, available measurements of seaward limit to appreciable sand level changes agree with limit depths calculated for extremely high waves expected 12 hours per year. The apparent accuracy and lack of scale effect in the calculated limit depth justify several applications in field and laboratory projects.

R 79-12..A077 269
MASON, C., "The Coastal Engineering Research Center's Field Research Facility at Duck, North Carolina," Nov. 1979.

Keywords: *Duck, NC; Field Research Facility-CERC; Piers*

In August 1977, construction of the 1800-foot pier was completed on the Outer Banks of North Carolina. This paper discusses the purpose of this effort; the physical characteristics of the site; the status of the facility; and related data collection, analysis and display capabilities. Scientific projects underway and planned for the facility are also discussed.

R 79-13..A077 233
VITALE, P., "Sand Bed Friction Factors for Oscillatory Flows," Nov. 1979.

Keywords: *Bed forms; Friction factor; Sediment transport; Shear stresses*

Oscillatory water tunnel tests, published in TM-28 (1969), are plotted as friction factor versus Reynolds number. These data, for three sand sizes and for both rippled and flat movable beds, are analyzed in a manner analogous to early treatment of flow in rough pipes that produced the Moody diagram. Laminar, transitional, and turbulent regimes are defined.

R 79-14..A079 686
PARKER, N.E., "Weir Jetties--Their Continuing Evolution," Jan. 1980.

Keywords: *Harbors; Jetties; Weir jetties*

This paper briefly discusses the concepts of the weir jetty as a bypassing system and a solution to the problem of shoaling harbors. The paper also traces the history of evolution of the weir jetty concept and discusses the successes and failures of existing weir jetty systems in the United States. The paper also discusses the designs of weir jetty bypassing systems which are now under construction or on the drawing board.

R 80-1..A086 253
THOMPSON, E.F., "Shallow Water Surface Wave Elevation Distributions," June 1980.

Keywords: *Gaussian distribution; Wave characteristics, Wave climatology*

Many widely used engineering formulas dealing with wind-generated waves have been derived with the assumption that the distribution of instantaneous sea-surface elevations is described by the Gaussian distribution law. When real wave conditions are not well described by the Gaussian law, the propriety of these formulas and designs based on these formulas is questionable. The validity of the Gaussian assumption for shallow-water surface wave elevation distributions is examined. A simple test for the non-Gaussain character of real waves is described and applied to U.S. coastal data collected by CERC in water depths of 5 to 9 meters.

R 80-2..A091 367
WEGGEL, J.R., and SORENSEN, R.M., "Surging in the Shark River Boat Basin," Oct. 1980.

Keywords: *Seiching; Shark River, NJ*

The Shark River Coast Guard Station has a 90- by 170- by 12-foot (depth below MLW) rectangular boat basin for docking station vessels. The boat basin, which is located on the Shark River approximately 0.5 mile from the Atlantic Ocean, is exposed both to local wind-generated waves from the river and to the spectrum of waves entering the river from the ocean. Under certain wave conditions, severe surging in the basin prevents its use for mooring vessels. To support a Coast Guard rehabilitation program at the basin, the Coastal Engineering Research Center (CERC) conducted an investigation of the nature of basin surging and possible methods for alleviating the problem. This paper presents an analysis of basin resonance modes, a summary and discussion of the model tests conducted and data collected, and suggested basin modifications that should alleviate basin seiching problems.

R 80-3..A092 045
HALLERMEIER, R.J., "Sand Motion Initiation by Water Waves: Two Asymptotes," Nov. 1980.

Keywords: *Drag forces; Erosion; Sediment transport*

The new calculation procedure for sand motion initiation on a level

bed in oscillatory flow simplifies the Shields criterion adopted from steady flow and agrees better with available measurements. The uniform criterion presented predicts critical peak near-bed velocities between 10 and 50 centimeters (4 and 20 inches) per second in ±10 percent agreement with a majority of adequately documented results for quartz sand in water. Critical velocity is determined by sand diameter, ratio of sand to fluid density, oscillation frequency, and to a lesser extent fluid viscosity. Needs for additional test data are pointed out.

R 81-1..AO97 976
MATTIE, M.G., and LICHY, D.E., "SEASAT Detection of Waves, Currents, and Inlet Discharge," Mar. 1981.

Keywords: *Currents, Duck, NC, Field Research Facility (FRF), Radar, SEASAT, Synthetic aperture radar (SAR), Tidal inlets*

A new era of remote sensing began on 26 June 1978 with the launch of SEASAT, the first satellite dedicated to establishing the utility of microwave sensors for remote-sensing monitoring of coastal and ocean phenomena. To validate and use SEASAT synthetic aperture radar (SAR) information for coastal studies, an experiment called DUCK-X was conducted off the U.S. east coast from 17 August to 9 October 1978. Various ground-truth sensors, which included airborne photographic and radar imagery, meteorological satellite imagery, land-based radars, and conventional wave gages, were used to evaluate the validity of the SEASAT SAR imagery. This paper focuses on ocean surface waves, ocean currents, and coastal inlet discharge. Specifically, the direction and the length of principal ocean wave trains are computed for the periods of SEASAT overflight of the DUCK-X area.

R 81-2..AO97 976
WALTON, T.L., Jr., "Littoral Sand Transport from Longshore Currents," Apr. 1981.

Keywords: *Currents, LEO, Longshore energy flux*

The prediction of sand transport rates along beaches in a shore-parallel direction is necessary to determine (1) dredging quantities at inlets, (2) the effective life of various coastal structures such as jetties, and (3) the magnitude of erosion-accretion on beaches adjacent to inlets. Most computations of the littoral sand transport rate have previously been determined by computing a wave parameter dependent quantity termed the longshore energy flux factor, P_{ls}. This paper incorporates the longshore current model (due to breaking waves) of Longuet-Higgins to determine the longshore energy flux, which in turn can be used to estimate longshore sand transport rates.

R 81-3..AO98 549
HALLERMEIER, R.J., "A Profile Zonation for Seasonal Sand Beaches from Wave Climate," Apr. 1981.

Keywords: *Profiles, Shoaling, Wave climatology*

Available guidance on the seaward limit to the wave-dominated beach profile has a generally inadequate basis in physical processes. The new model developed herein divides the shore-normal profile of a seasonal sand beach into three [illegible] zones parallel to the shoreline. The middle or shoal zone is intended to be a buffer region where expected surface waves have neither strong nor negligible effects on the sand bottom during a typical year. The shoal-zone boundaries are based on critical values of two Froude numbers giving distinct [illegible] in sand mobilization by waves. With these critical values, the limiting water depths to the shoal zone are calculated from local sand characteristics and summary statistics of annual wave climate, assuming linear wave theory and an exponential cumulative distribution of wave height. Suggested coastal engineering applications for the calculated shoal zone are discussed.

R 81-4..A101 930
LICHY, D.E., MATTIE, M.G., and MANCINI, L.J., "Tracking of a Warm Water Ring," July 1981.

Keywords: *Remote sensing, Synthetic aperture radar (SAR)*

Six times during September and October 1978 the SEASAT synthetic aperture radar (SAR) on descending orbit imaged a warm water ring off the east coast of the United States. The location and microwave response of SAR imagery for the rings were compared with NOAA-5 thermal infrared imagery and frontal analysis maps from the U.S. Naval Oceanographic Office (NAVOCEANO). This paper presents the results of an analysis of the three data sources and a description of the SAR signature of the ring. The ability of the SAR to track warm water rings and the nature of the microwave return are discussed.

R 81-5..A106 193
MATTIE, M.G., HSIAO, S.V., and EVANS, D.D., "Wave Direction Measured by Four Different Systems," Sept. 1981.

Keywords: *Aerial photography; [illegible]; Mission Beach, CA; Radar; Synthetic aperture radar (SAR)*

During a March 1977 experiment, four systems were used to obtain wave-direction information offshore of Mission Beach, California: a synthetic aperture radar (SAR) aboard a NASA CV990 aircraft, a coastal imaging radar, a pressure-gage array offshore, and aerial photography aboard two aircraft. The coastal radar, aerial photography, and SAR provided wave images. The direction and length of the principal wave trains were measured by a manual analysis of coastal radar images and the aerial photography; two-dimensional wave spectra were determined from the SAR images. The array at the Naval Ocean Systems Center (NOSC) tower provided directional wave spectra. Scatter diagrams are presented, which intercompare the measurements from these four systems, and radar image spectral information is compared with the array spectra.

R 81-6 .... AD-A108 [illegible]
[illegible], E., et al., "Barrier Island Sedimentation Studies Program," Oct. 1981.

Keywords: *Barrier islands, Sea level, Sediment transport*

Coastal barrier complexes form a large part of the Atlantic and gulf coasts. These complexes can be divided into two main elements: the barrier itself, which may be either a barrier island, barrier spit, or baymouth barrier; and the bay, lagoon, or estuary sheltered by the barrier. These elements can in turn be divided into a number of subenvironments typified in most cases by characteristic morphology, sediment distribution, and fauna, and subject to a distinct set of sedimentary processes. In order to determine the present state of knowledge concerning barriers and current research efforts in the United States, the Coastal Engineering Research Center (CERC) conducted two workshops in the fall of 1979; participants were drawn from governmental, academic, and private institutions. The workshops covered the problems of management, use, and preservation of barrier complexes and reviewed past and current research into barrier problems. This paper discusses some of the problem areas and deficiencies of knowledge of the behavior of the barrier complex under varying natural or manmade environmental circumstances. These problems were identified during the workshops, in a review of literature, and in individual research efforts over the past year.

R 81-7 .... AD-A108 176
EVERTS, C.H., "Human Influence on the Sediment Budget of a Barrier Island," Oct. 1981.

Keywords: *Barrier islands, Budget, sediment*

Natural and man-induced events which may create a need for government involvement on barrier islands include storm flooding; island erosion by waves, currents, and wind; and development which results in a loss of ecologically important areas or interrupts natural processes that create and maintain such areas. This paper deals with sediment movement on barrier islands, specifically a sediment budget analysis (SBA), and the importance of various parts of a budget analysis. The results can be used to predict natural shoreline changes. The paper shows that the introduction of human processes in the coastal zone can, in addition to being harmful, be helpful in slowing or preventing shoreline retreat.

R 81-8 .... AD-A107 697
HOBSON, R.D., SCHWARTZ, R.K., and MUSIALOWSKI, F.R., "Recent Geologic History of a Barrier Island," Oct. 1981.

Keywords: *Barrier islands, Topsail Island, NC*

Barrier islands form more than 60 percent of the eastern and gulf coastlines. In all, there are 280 individual barriers of which 70 are

already highly developed for fulfilling navigation and 100 more are currently being developed. A need clearly exists to understand natural barrier dynamics and rates of change in order to protect these limited resources and to manage them effectively. This study considers the history of [illegible] Island, South Carolina, as determined from the analysis of 18 cores obtained from the nearshore zone at elevations ranging from +2 to -3.0 meters MSL, relating the cored stratigraphy to [illegible].

R 81-9..A107 205
WALTON, T.L., and ESCOFFIER, F.F., "Linearized Solution to Inlet Equation with Inertia," Nov. 1981.

Keywords: *Tidal inlets*

Various investigators have proposed solutions to the hydraulic flow through inlets problem for simplified-type inlet bay systems in which the ocean tide has been assumed sinusoidal and both the inlet cross-section and the bay surface area are constant. Of these solutions, only Özsoy and Escoffier and Walton retain the inertial term and provide an analytical solution. This note describes a solution technique using a linearization technique of equating friction work over the tidal cycle in a nonlinear approach to friction work in a linear approach, and thus avoids a priori assumptions of the form of bay tide.

R 81-10...A107 363
WALTON, T.L., and WEGGEL, J.R., "Stability of Rubble-Mound Breakwaters," Nov. 1981.

Keywords: *Breakwaters; Wave characteristics*

Numerous investigators have shown that wave steepness (and consequently wave period) is a factor in the stability of rubble-mound breakwaters. Some present design methods do not explicitly consider wave period. This note presents a modified wave steepness dependent stability number that accounts for inertia effects.

R 81-11...A109 902
LOFQUIST, K.E.B., "Measurements of Oscillatory Drag on Sand Ripples," Jan. 1982.

Keywords: *Bed forms; Drag forces; Sand ripples; Sediment transport*

The report describes laboratory measurements of bottom drag stress on naturally rippled sand beds as a function of time using an oscillatory flow water tunnel partitioned into two parallel channels. Average rates of energy dissipation are calculated, and some salient features of the stress coefficient, f( ) , are qualitatively described by a simple model.

R 81-12...A108 962
SCHNEIDER, C., and WEGGEL, J.R., "Visually Observed Wave Data at Pt. Mugu, Calif.," Dec. 1981.

Keywords: LEO; Pt. Mugu, CA

A Littoral Environment Observation (LEO) Program, established along the west coast of the United States in 1968, provides daily visual observations of wave and surf conditions. These data were collected at three LEO sites at Pt. Mugu California. Comparisons of visual observations and measured wave gage records were made to evaluate the reliability of wave heights and periods collected using the LEO technique. LEO estimates of wave period tended to overpredict the period of maximum energy density. It is presumed that this occurred because observers often fail to count smaller waves when making this measurement. Statistics of the gage measurements of wave height and LEO wave heights are reasonably close.

82-1...A115 261
CAMFIELD, F.E., "Calculation of Trapped Reflected Waves," Feb. 1982.

Keywords: *Reflection, wave; Wave characteristics*

A substantial increase in reflected wave energy may result where structures are built along a section of coastline, with no beach fronting the structure. In certain instances where the structure is relatively parallel to bottom contours, and the wave direction and offshore topography near the end of the structure result in wave reflection at a sufficiently large angle, the structure may combine with a steep bottom slope to form a wave guide which traps wave energy along the shoreline. This trapped energy may magnify wave heights and increase erosion along an adjacent section of shoreline.

* 82-2...A115 260
CAMFIELD, F.E., "Long-Wave Energy Trapping," Feb. 1982.

Keywords: *Reflection, wave; Wave characteristics*

Long-wave energy trapping by refraction on a curved coastline is considered. The parameters controlling energy trapping are developed and defined. Solutions are developed for defining the periods of trapped waves for a given physical geometry.

* 82-3...A115 309
CAMFIELD, F.E., "Bottom Smoothing to Prevent Numerical Instability," Nov. 1981.

Keywords: *Mathematical models; Sediment transport*

Numerical simulation of sediment transport and the changes in plan form of the shoreline near coastal structures may produce results in which the bottom slope exceeds the maximum slope that would be expected to occur on the real (prototype) shoreline. This may cause an instability in the numerical solution and prevent an accurate simulation of the transport processes. A numerical subroutine has been developed to redistribute the sediment at points where the numerically produced bottom slope exceeds the maximum expected slope.

R 82-4 ....A118 729
VINCENT, C.L., and LICHY, D.E., "Wave Measurements in ARSLOE," Aug. 1982.

Keywords: *ARSLOE; Wave climatology*

The Atlantic Ocean Remote Sensing Land-Ocean Experiment (ARSLOE) held 6 October to 30 November 1980 near Duck, North Carolina, provided a large data base of wave measurements applicable to a wide variety of investigations of wave mechanics and wave sensor intercomparisons. ARSLOE involved some 40 participating organizations including the Coastal Engineering Research Center (CERC), National Ocean Survey, NASA, and scientific groups from Canada, Japan, Norway, and France. The primary experimental site was a 30- x 36-km rectangle centered on the CERC Field Research Facility and extending from the shore to a depth of about 40 m. This paper concentrates on the ocean-wave experiment conducted at the Duck, North Carolina, area and provides an overview of objectives, participants, data collection, and preliminary results.

R 82-5 ....A118 258
HALLERMEIER, R.J., "Bedload and Wave Thrust Computations of Alongshore Sand Transport," Aug. 1982.

Keywords: *Mathematical models; Sediment transport; Wave characteristics*

The components of nearshore sediment movement are customarily taken to lie in the directions normal to the shoreline (onshore-offshore transport) and parallel to the shoreline (alongshore transport). Within the intensely agitated littoral zone, waves propagating at only a slight angle to the shore normal can result in appreciable alongshore transport. The rate of alongshore transport figures in regional sediment budgets, sedimentation at coastal inlets, growth of spits, etc. Coastal regions are commonly sandy with transport processes dominated by wave action, so that an accurate prediction procedure for alongshore sand transport due to waves is of great practical importance. Many computation procedures for alongshore transport rate have been reported. All these approaches are somewhat empirical, although the fundamental rationales, incorporated variables, and supportive data bases vary greatly. The computation schemes may be roughly classified as near one of two extremes: simple or complicated. This paper presents and assesses a new transport relationship intended to be intermediate between these two extremes.

R 82-6 ....A112 712
HALLERMEIER, R.J., "Hindered Bedload Settling as a Model of Sand Bed Flattening by Water Waves," Nov. 1982.

Keywords: *Bedload; Sediment transport*

The interrelationships between fluid flow and the surface forms of underlying movable beds are crucial in interpreting sedimentary

structures and in predicting hydraulic drag. Energetic flows can erode all features from a sediment bed, and transition to such a planar bed is important to the processes of sediment transport by waves. This analysis connects bed plantation to a threshold effect in hindered settling with increasing concentration of noncohesive sediment moving near the bed.

[illegible]..A126 503

HALLERMEIER, R.J., "Oscillatory Bedload Transport: Data Review and Simple Formulation," March 1983.

Keywords: *Bedload; Sediment transport*

This review displays over 700 rates of sediment transport by oscillatory flow from 20 sources. Sediments include fine sands to pebbles, both of quartz and of lightweight materials, and the transport rates in which range over seven orders of magnitude. Most data are average gross (to and fro) bedload rates collinear with laboratory flow over a horizontal sediment bed, although other situations with net transport, suspended load, or oblique field waves are considered.

[illegible]..A127 008

CAMFIELD, F.E., "Wave-Wave Growth with High Friction," March 1983.

Keywords: *Wave characteristics; Wind*

A consideration in the planning and design of works to protect against flooding is the prediction of the heights of waves which may be generated over the flooded area. Existing methods for predicting wind-generated waves are based on equations developed for low values of bottom friction. When storm-generated waves travel a distance across shallow flooded areas where vegetation causes moderate-to-high frictional stress, it is necessary to estimate the heights and periods of waves. Camfield has previously (1977) extended forecasting curves for small water depths and provides some suggested estimating techniques.

[illegible]..A127 605

PULLEN, E.J., and NAQVI, S.M., "Biological Impacts on Beach Replenishment and Borrowing," Apr. 1983.

Keywords: *Beach nourishment; Ecology*

Shore erosion is a major problem along many ocean beaches and the shorelines of the Great Lakes. One of the most desirable, cost-effective shore protection alternatives is beach replenishment. The Coastal Engineering Research Center (CERC) initiated studies in the early 1970's to determine how this type of manmade modification would impact the coastal environment and its associated biota. Since offshore borrowing is many times an integral part of a beach replenishment project, borrow sites in selected locations also were studied. Studies were performed in major geographic regions (Atlantic, Gulf of Mexico, Pacific, and Great Lakes) to determine the long-term impacts of beach

replenishment operations on aquatic animals and how the impacts vary regionally.

R 83-4 .... A128 357
HUGHES, S.A., "Movable-Bed Modeling Law for Coastal Dune Erosion," May 1983.

Keywords: *Dunes; Movable-bed modeling*

Similitude relationships for the physical modeling of coastal dune erosion in movable-bed models are developed based on consideration of the inertial forces, represented by the turbulent shear stress, and the gravity force in the nearly horizontal direction of the principal flow. This approach results in a dynamic scaling relationship for a distorted model. By requiring similarity of the dimensionless fall velocity parameter between the prototype and model and combining this criterion with the dynamic scaling, the necessary model distortion is derived. The derived similitude relationships were verified by reasonable reproduction of the dune erosion which occurred during a prototype event. The model tests included a time-dependent storm surge hydrograph and an increasing wave height as the storm progressed.

R 83-5 .... A128 314
WEGGEL, J.R., "Analysis Method for Studying Sedimentation Patterns," May 1983.

Keywords: *Mill Cove, FL; Sediment transport; Shoaling*

It is often necessary to quantify changes in water depth brought about by either sedimentaton or scour in enclosed or semi-enclosed waterbodies. For example, historical sedimentation patterns can be used to estimate future patterns and then used to determine future dredging requirements for river, harbor, and estuary navigation channels. Usually, depth changes that occur between two surveys must be quantified. One method of quantifying shoaling patterns is to superimpose charts from two surveys and construct contour lines of the differences in bottom elevation. Another method of analysis is presented herein to help identify the depths rather than the location in which sedimentation occurs. The area under study was Mill Cove, a semi-enclosed basin adjacent to the St. Johns River in Jacksonville Harbor, Florida.

R 83-6 .... A129 003
ECKERT, J.W., "Design of Toe Protection for Coastal Structures," May 1983.

Keywords: *Coastal structures*

The hydraulic and geotechnical criteria for design of toe aprons are reviewed and applied to both rubble-mound and vertical-faced coastal structures. Guidelines for design based on current practice are included.

R 83-7..A129 306
WEGGEL, J.R., "The Design of Weir Sand Bypassing Systems," May 1983.

Keywords: *Sand bypassing; Weir jetties*

Weir jetties are structures built at tidal inlets or other coastal entrances to facilitate sediment bypassing. Whenever navigation structures such as jetties are built at tidal inlets, they interrupt the normal longshore sediment transport. If the net longshore transport is not zero, this usually results in accretion along the updrift beach and erosion along the downdrift beach. The structures prevent sediment from moving from one side of the inlet to the other. On the downdrift side, waves pick up sediment and cause erosion. Because of the proliferation of weir systems and the lack of definitive criteria for their design, the U.S. Army Corps of Engineers initiated a research program to study the hydraulics and sediment transport mechanics of weir jetty systems and to develop design methodologies. The results of the hydraulic study are presented by Seabergh (1983). This paper will discuss the general design considerations for weir jetty systems and touch on some results of a laboratory study of sediment transport over weirs.

R 83-8..A128 929
HALLERMEIER, R.J., "Sand Transport Limits in Coastal Structure Designs," May 1983).

Keywords: *Mathematical models; Sediment transport*

Effective structure geometries for controlling nearshore sand transport are examined in the context of a simplified profile zonation based on wave conditions and sand characteristics. The present review considers field and laboratory evidence on transport rates and sedimentation patterns in sandy regions influenced by shore-normal groins, shore-parallel breakwaters, or jetties for coastal harbor entrances. The calculated limit depth for appreciable sand transport is judged to be a useful indicator of proper structure extent or siting for desirable effects on nearshore sand transport and deposition.

R 83-9..A129 230
AHRENS, J.P., "Wave Runup on Idealized Structures," May 1983.

Keywords: *Runup, wave*

Inspection of monochromatic wave runup data for plane, smooth slopes indicates that nonlinear effects are important in determining the magnitude of the runup of nonbreaking waves. Other factors being equal, the more nonlinear the wave, the higher the runup. However, when the runup of nonbreaking irregular waves on plane, smooth slopes is investigated, there appears to be no significant influence of wave nonlinearity on runup. Other interesting characteristics of irregular wave runup are discussed, including a method of predicting the magnitude and distribution of runups based on the Weibull Distribution.

R 83-10..A129 002

EVERTS, C.H., "Shoreline Changes Downdrift of a Littoral Barier," May 1983.

Keywords: *Crenulate-shaped bays; Littoral barriers; Shore processes*

Crenulate-shaped bays form downdrift of coastal structures that impede the longshore transport of sediment. Silvester (1960, 1970, 1976) developed an empirical method to predict the equilibrium shape of a crenulate bay between two headlands after the bay began forming. An extension of that method, presented in this paper, allows a prediction of the time-dependent evolution of a crenulate bay before littoral barriers are constructed. The method thus provides a planning tool to predict shoreline changes that could occur downdrift of a jetty, groin, or offshore breakwater. Input data are preconstruction upcoast and downcoast longshore sediment transport rates and the cross-shore sediment transport rate.

R 83-11..A129 001

CLANCY, R.M., CAMFIELD, F.E., and SCHNEIDER, C., "Low-Cost Measurements of Shoreline Change," May 1983.

Keywords: *Sediment transport; Shore processes*

Periodic low-cost measurements of beach berm widths have been made at 25 stations along a 15.2-mile reach of shoreline in Southern California. Low-cost measurements of wave data have also been taken at stations in this area to provide estimates of longshore sediment transport. Comparisons are made between the estimated longshore sediment transport and the measured changes in beach berm width.

R 83-12..A129 112

POPE, J., and ROWEN, D.D., "Breakwaters for Beach Protection at Lorain, Ohio," May 1983.

Keywords: *Breakwaters; Coastal structures; Lorain, OH*

In October 1977, construction of the three segmented offshore breakwaters was completed and beachfill was placed at Lakeview Park, Lorain, Ohio, on Lake Erie's south shore. A 5-year monitoring program (1977-1982) was implemented to document the effectiveness of breakwaters in littoral transport control and the efficiency of this particular design. A continously documented suite of prototype data was collected and included the use of aerial photography, bathymetric and topographic surveys, littoral environment observations, sediment sampling, a hydraulic model study, and site inspection. The placed beach fill rapidly adjusted to a morphology which was approximately balanced with the breakwater system, resulting in erosion above the waterline and accretion below, and development of threee salient features. This morphology continues to readjust in response to lake level and wave climate fluctuations. Wave attack from the west dominates, resulting in an asymmetry in the beach morphology causing the west end to narrow and steepen. In spite of this, the overall

project beach has been remarkably stable, exhibiting a slight average annual accretion of approximately 3000 cubic yards (2294 cubic meters).

R 83-13...A129 127

MILLER, H.C., BIRKEMEIER, W.A., and DeWALL, A.E., "Effects of CERC Research Pier on Nearshore Processes," May 1983.

Keywords: *Duck, NC: Field Research Facility-CERC; Shore processes*

Though open-pile structures and piers are frequently constructed on the coastline, relatively little is known about their effects on beach and nearshore areas. The few studies that have been done indicate that piers have little effect on adjacent shorelines. Other studies have addressed scour around piles or pile groups, but not effects on adjacent areas. Since there is considerable literature utilizing data collected from piers, particularly wave and bottom change data, and understanding of the structures' influence on the data is important. This paper discusses effects caused by a pier constructed at the Coastal Engineering Research Center's Field Research Facility, located on the Atlantic Ocean in Duck, North Carolina. This Facility is an ideal study site since concurrent measurements of oceanic conditions and bathymetric changes are made both under and away from the pier.

R 83-14...A129-000

THOMPSON, E.F., and VINCENT, C.L., "Prediction of Wave Height in Shallow Water," May 1983.

Keywords: *Analysis, spectral; Wave climatology*

Prediction of wind waves in shallow water is essential to the solution of a variety of coastal and offshore engineering problems. Much current methodology is an extension of significant wave methods based on monochromatic wave theory and wave growth relationships that date from the mid-1950's. Increased nearshore development and a need to improve coastal engineering design techniques has made it desirable to predict shallow-water wave conditions more accurately. This paper reviews recent research results obtained at the Coastal Engineering Research Center and presents methods for making estimates of spectral shape, energy level, and significant wave height in shallow water based on spectral theories of wave behavior.

TM 1 ....429 785

BELLY, P.Y., "Sand Movement by Wind," Jan. 1964.

Keywords: *Sediment transport; Threshold velocity; Wind; Wind tunnel*

Sand movement by wind is investigated in a laboratory wind tunnel, and results compared with formulas previously developed by other investigators. Findings of previous investigators with respect to rate of sand transport are reaffirmed, but average flying distance of sand particles was found to be much greater, possibly due to method of calculation. Kadib (in Addendum II) extended the investigation to a smaller sand particle-size range and indicated threshold velocity is best determined by experiment rather than formula when sand grain size is <0.20 millimeter. The effect of moisture content on sand movement by wind is also investigated; experimental data clearly demonstrate that moisture increases the value of the threshold velocity of sand movement.

TM 2 ....440 878

KALKANIS, G., "Transportation of Bed Material Due to Wave Action," Feb. 1964.

Keywords: *Boundary layer flow; Lift forces; Sediment transport*

A method is developed for use in determining rate of sediment transportation in a layer adjacent to the ocean floor. The method is applicable only for conditions of unstable flow in this layer associated with long surface waves of small amplitude where it is assumed sediment particles in a bed are brought to a state of incipient equilibrium. By experimental determination of the distribution of lift forces and statistical analysis of turbulent fluctuations, an equation for the rate at which sediment in the bed layer is oscillated and an expression for concentration of sediment in this oscillatory state are developed. The concentration in combination with velocity distribution in bed layer associated with any incidental secondary flow can be used to calculate transport rate of bed material in direction of the flow.

TM 3 ....440 879

EAGLESON, P.S., and van de WATERING, W.P., "A Thermistor Probe for Measuring Particle Orbital Speed in Water Waves," Mar. 1964.

Keywords: *Current meters; Instrumentation; Thermistor*

The development of a thermistor probe and the necessary additional electronic circuitry to measure temporal and spatial distribution of the magnitude of the orbital velocity vector in water waves is described. Considerations are presented which govern the choice of the thermistor and circuitry according to the proposed use of the probe. A steady-state calibration accomplished by towing the probe through a still body of water is shown to be adequate for indicating velocities in unsteady motion of a water wave for a frequency up to 0.5 cycle per

second. Orbital velocities of laboratory waves measured with the instrument are compared with those predicted by Stokes' theory.

TM 4 ....440 880
GALVIN, C.J., Jr., "Wave-Height Prediction for Wave Generators in Shallow Water," Mar. 1964.

Keywords: *Wave characteristics; Wave climatology*

A simple method of computing wave heights generated by displacement-type mechanical wave generators in shallow water based on approximate theory is presented. It is shown that the height of waves generated is approximately equal to 2 S/L times an appropriate linear dimension of the generator measured normal to the stroke S . This relation is shown to agree with hydrodynamic theory for piston and flap-type generators and with actual measured data from four piston-type and two plunger-type generators of widely different character, for the range of relative depth usually encountered in laboratory practice, $2\ d/L < 1$.

TM 5 ....440 881
HARRISON, W., BREHMER, M.L., and STONE, R.B., "Nearshore Tidal and Non-Tidal Currents, Virginia Beach, Virginia," Apr. 1964.

Keywords: *Current meters; Currents; Diffusion; Virginia Beach, VA*

Simultaneous measurements by Eulerian and Lagrangian methods were made continuously during a 1-week period in the nearshore area south of Cape Henry. Three Roberts Radio Current Meter stations were also established offshore, and five onshore stations were established for longshore current and wave measurement. These data are presented and a circulation model constructed which confirms earlier speculation that nontidal drift describes a clockwise eddy movement south of Cape Henry, the southern limit of which is apparently near Rudee Inlet. Diffusion was investigated in one of the tidal currents during ebb flow by tagging with rhodamine-B dye, and specific information thereon is also presented.

TM 6 ....453 226
HARRISON, W., and WILSON, W.S., "Development of a Method for Numerical Calculation of Wave Refraction," Oct. 1964.

Keywords: *Hindcasting; Refraction, wave; Virginia Beach, VA*

A procedure is described for calculation of wave refraction using observed or hindcast deepwater wave characteristics and high speed computer programs. An example of the method is presented in which wave rays are brought from deep water in the Atlantic Ocean to the shore at Virginia Beach, Virginia. The method is in the developmental stage but promises rapid and accurate calculation for routine determinations.

TM 7 ....459 084
HARRISON, W., and KRUMBEIN, W.C., "Interactions of the Beach-Ocean-Atmosphere System at Virginia Beach, Virginia," Dec. 1964.

Keywords: *Currents; Shore process; Virginia Beach, VA; Wind*

A number of interactions among beach variables are investigated by sequential linear multiregression analysis as programed for high-speed computers. The study includes influence of beach geometry, wave characteristics, tidal effects, and local wind conditions on velocity of longshore currents, deposition and erosion on the lower foreshore, response of grain size and beach slope to shore processes. Most influential combinations of variables arbitrarily designated as "process" variables are in general agreement with significant variables of wave tank experimentation and substantiate intuitive judgments regarding relative importance of these variables on natural beaches. Results suggest the study of certain additional variables, seldom examined under controlled conditions, combined with variables normally examined in wave tanks is needed. Timelag between inception of a group of "processes" and moment of their maximum effect on the "response" is also investigated.

TM 8 ....459 085
HARRISON, W., KRUMBEIN, W.C., and WILSON, W., "Sedimentation at an Inlet Entrance--Rudee Inlet-Virginia Beach, Virginia," Dec. 1964.

Keywords: *Currents; Rudee Inlet, VA; Tidal inlets; Virginia Beach, VA*

A physical model is presented of the wave, longshore-current, and ebb tide current systems as the distribution of mean particle size and degree of sorting at the mouth of a controlled inlet are determined. Bottom samples taken at Rudee Inlet, Virginia Beach, Virginia, were subjected to trend-surface analysis to verify trends predicted by the model. Correspondence between model and natural situation was good, but area of inlet-current influence was rather limited in extent.

TM 9 ....459 520
HARRISON, W., and ALAMO, R.M., "Dynamic Properties of Immersed Sand at Virginia Beach, Virginia," Dec. 1964.

Keywords: *Settling velocities; Virginia Beach, VA*

Results are presented for a study designed to measure and analyze systematic variations in mean settling velocity of a large number of sand samples taken simultaneously along three transects across the beach and in the vicinity of Rudee Inlet. Measurements used to describe properties of the samples were mean settling velocity, mean Reynolds number, and mean drag coefficient. Corey's shape factor and dynamic shape factor of Briggs, McCulluch, and Moser (1962) were calculated and compared. The importance of kinematic viscosity on dynamic properties of sand particles and on beach slopes in the shoaling wave zone is considered. Observed trends of mean size and sorting throughout the dynamic zones are compared with those predicted by the Miller and Ziegler (1965) model, but comparison is poor.

TM 10 ....615 790
GALVIN, C.J., Jr., and EAGLESON, P.S., "Experimental Study of Longshore Currents on a Plane Beach," Jan. 1965.

Keywords: *Currents; Sediment transport*

This investigation deals with experimental description of longshore currents and analytical prediction of longshore current velocity. The experimental phase includes measurements, under controlled laboratory conditions, of phenomena associated with longshore currents flowing on a smooth plane beach. The analytical phase includes development of an empirical relation between longshore current velocity and wave conditions at breaking, an order of magnitude analysis of energy in the surf zone, and an examination of equations of motion for longshore currents. The empirical relation for predicting approximate value of mean velocity of uniform longshore currents agrees with some sets of field and laboratory data.

TM 11 ....615 791
VESPER, W.H., "Behavior of Beach Fill and Borrow Area at Seaside Park, Bridgeport, Connecticut," Feb. 1965.

Keywords: *Beach nourishment; Seaside Park, CT*

Comparative survey and sand-sampling data are analyzed to determine the behavior of beach fill placed on the beach from an offshore borrow source. Over a 5-year period subsequent to initial placement, volumetric losses averaging about 14,000 cubic yards per year from the beach zone above MLW are nearly equaled by volumetric gains in the underwater zone of the profile, with only a comparatively small net volume (8,400 cubic yards for the 5-year period) indicated as net loss from the fill area. The borrow area, about 1,200 feet offshore, was concluded to be sufficiently distant to preclude inducement of offshore loss. Annual cost of providing and maintaining the authorized beach protection at Seaside Park is estimated at $3.35 per linear foot of shore.

TM 12 ....620 873
NEIHEISEL, J., "Source and Distribution of Sediments at Brunswick Harbor and Vicinity, Georgia," Mar. 1965.

Keywords: *Brunswick Harbor, GA; Natural tracers; Sediment transport*

Distribution patterns of bottom sediment in Brunswick Harbor reflect long-term hydrodynamic response and generally correlate with dynamic factors affecting sedimentation. Certain diagnostic minerals reflect the source and are used as "natural tracers" to delineate direction of sediment movement. Analysis of sediment parameters also enables interpretation of sediment transport direction. Results indicate that shoaling presently occurring is related to source materials in Altamaha River and is introduced into the harbor through the tidal inlet between the barrier islands and also through MacKay River during greater than average discharge rates of the Altamaha River.

TM 13 ....620 874
BORGMAN, L.E., "The Statistical Distribution of Ocean Wave Forces on Vertical Piling," July 1965.

Keywords: *Piles; Wave forces*

Theoretical distribution and relationships concerning wave forces on piling for unidirectional waves of very small amplitude having narrow-band spectrum are investigated mathematically and compared with measured data for finite waves with an almost narrow-band spectrum. The usual force formula consisting of a drag and an inertial component, each multiplied by coefficients supposedly constant, is used. A graphical method is presented for estimating parameters defining these forces which permits replacing the distribution of the measured forces with an empirical distribution function adjusted for the condition that only those waves with forces exceeding some significant peak value are included in the measured data.

TM 14 ....628 866
CHERRY, J.S., "Sand Movement Along a Portion of the Northern California Coast," Oct. 1965.

Keywords: *Bodega Head, CA; Drakes Bay, CA; Littoral barriers; Point Reyes, CA; Russian River, CA; Sediment transport*

Long-term beach and offshore sand movement along the northern California coast between Drakes Bay and Russian River is studied. Analysis of wave, sand, and geological data, coupled with known configurations and behavioral processes of stable beaches, suggests little net alongshore movement under present conditions and that beaches are generally in equilibrium with negligible loss. This analysis is confirmed through heavy mineral analysis of surface samples. Pt. Reyes and Bodega Head are indicated to be effective littoral barriers to longshore transport.

TM 15 ....628 867
WILSON, B.W., "Analysis of Wave Forces on a 30-Inch-Diameter Pile Under Confused Sea Conditions," Oct. 1965.

Keywords: *Gulf of Mexico; Piles; Wave forces*

The methods developed in 1955-57 for analysis of wave force measurements on a 30-inch test pile in the Gulf of Mexico are discussed, and procedures for reducing raw data to a form suitable for digital computer operations are outlined. Measurements of vertical reaction at the pile supports were successfully checked with the record of water surface fluctuation, $\eta(t)$, but calculations of total force based on measured horizontal reactions could not be correlated. Identification of separate wave systems suggested an equivalent force, $F_e(t)$, can be used for correlation with velocity and acceleration components derived from $\eta(t)$, and its use is justified by a pilot analysis of synthetic data. It was found possible by use of this analysis technique to recover the values of drag and inertial coefficients put into the synthetic data.

TM 16 ....628 868
KRUMBEIN, W.C., and JAMES, W.R., "A Lognormal Size Distribution Model for Estimating Stability of Beach Fill Material," Nov. 1965.

Keywords: *Beach nourishment, Mathematical models, Virginia Beach, VA*

An analytical approach to the problem of estimating the "extra amount" of beach fill needed when available borrow material is finer than native sand composing the beach area is discussed. A mathematical solution is offered for those cases where borrow material is less well sorted than native beach material. If fill is better sorted, there is no direct mathematical solution and required fill quantities must be based on past experience and empirical procedures. Mathematical theory underlying the method of analysis is based on a simple model assuming lognormalcy of particle-size distributions. A "critical ratio" of amount of borrow material needed to produce the size distribution of the native sand is defined such that when the ratio has a maximum, the problem can be solved.

TM 17 ....636 771
WILSON, W.S., "A Method for Calculating and Plotting Surface Wave Rays," Feb. 1966.

Keywords: *Mathematical models, Refraction, wave, Virginia Beach, VA*

A method using a digital computer and incremental plotter for calculating and plotting wave rays (orthogonals) is described. Given a grid of depth values, initial position of wave ray, and direction of travel and period of wave, successive points along the ray path are calculated. For each point on the path, water depth and bottom slope are estimated from depth grid by linear interpolation; wave speed and curvature computed according to classic theory; and location of next successive point approximated by iteration procedure. Numerical results may be plotted automatically. An example of results, obtained by application of the method at Virginia Beach, Virginia, is presented. Unless the bathymetry of area is unusually smooth, this method is faster than manual construction. The computer program is included.

TM 18 ....647 213
FAIRCHILD, J.C., "Correlation of Littoral Transport with Wave Energy Along Shores of New York and New Jersey," Nov. 1966.

Keywords: *Refraction, wave, Sediment transport, Wave energy*

This memorandum discusses the results of a study which correlated field measurements of net littoral transport with the average net alongshore component of wave energy. It employs a survey attempt toward a "wave energy-littoral transport" correlation for a 500-mile stretch of coastline by applying wave refraction analysis to wave hindcasts from synoptic weather charts. Littoral transport rates were obtained from beach erosion control and other applicable reports of the study area. Results are presented in tabular and graphical form and compared to other "wave energy-littoral transport" relationships. The conclusion is made that the correlation should be reliable within the limits of the data scatter.

TM 19 ....647 214
BOWEN, A.J., and INMAN, D.L., "Budget of Littoral Sands in the Vicinity of Point Arguello, California," Dec. 1966.

Keywords: *Budget, Sediment, Point Arguello, CA, Sediment transport*

The report discusses the results of a detailed analysis of the littoral processes affecting the California coast between Pismo Beach and Santa Barbara. The method involves the concept of a sand budget based on transport rates of significant littoral processes. Each process is examined to assess the sedimentary contributions (credits) and losses (debits). To balance sediment transports, the region is subdivided into five cells, with boundaries at positions where rate of sand has been estimated. Using basic data, a quantitative transport rate was determined for each process in each cell. Results are shown in graphic and tabular form.

TM 20 ....653 260
VESPER, W.H., "Behavior of Beach Fill and Borrow Area at Sherwood Island State Park, Westport, Connecticut," May 1967.

Keywords: *Beach nourishment, Sherwood Island State Park, CT*

In 1957, sand was pumped to the shore from an offshore borrow area to restore and stabilize the beach. Training walls were constructed to confine the inlet at the east end and a groin built at the west end of the park. The entire beach was widened and raised, and an extra amount of sand was placed on Sherwood Point to act as a feeder beach. Surveys in 1962 showed that losses from the tidal zone were major and indicated that further maintenance is required. Data, in graphic form, show comparative beach profiles and changes in shoreline. Quantitative volume changes and sand sample data are presented in tabular form. Initial and annual cost figures are given.

TM 21 ....659 336
KOONTZ, W.A., and INMAN, D.L., "A Multi-Purpose Data Acquisition System for Instrumentation of the Nearshore Environment," Aug. 1967.

Keywords: *Current meters; Gages, wave; Sediment transport*

A data acquisition system, using digital techniques, has been designed and tested. Using modern computer techniques, it acquires and analyzes instantaneous-synoptic measurements of the nearshore environment. Sensors include a digital wave gage with self-contained logic circuitry, a vibrating-wire transducer to measure bottom pressures a Savonius current meter, and a photography technique for estimating the density of suspended sediments.

TM 22 ....659 341
WOODHOUSE, W.W., and HANES, R.E., "Dune Stabilization with Vegetation on the Outer Banks of North Carolina," Aug. 1967.

Keywords: *Cape Hatteras, NC; Dunes; Transplanting; Vegetation*

Shore and nursery experiments were conducted to develop an accelerated and effective vegetation program for "growing" dunes. Randomized blocks of plantings, with three replications, were used in the experiments. Results of various methods of producing nursery stock, transplanting, and fertilization are shown in figures, tables, and photos. The most practical and economical methods for each step of the program are suggested.

TM 23 ....662 000
AHRENS, J.P., "A Model Study of the Entrance Channel, Depoe Bay, Oregon," Sept. 1967.

Keywords: *Depoe Bay, OR; Harbors; Hydraulic models*

A scale-model study was conducted at CERC to see if a proposed widening of the entrance channel at Depoe Bay, Oregon, would allow appreciably more wave energy to enter the harbor. A linear, undistorted Froude scale of 1 to 120 was used. The model was constructed of mortar in a wave tank 72 feet long and 1.4 feet wide. Ponding in the model bay due to extreme wave action exceeded the equivalent of 3 feet prototype. The wave height transmission coefficient for waves traveling into the bay ranged from greater than 1.0 for long waves to less than 0.1 for short waves.

TM 24 ....662 036
BROWN, L.J., and BORGMAN, L.E., "Tables of the Statistical Distribution of Ocean Wave Forces and Methods of Estimating Drag and Mass Coefficients," Oct. 1967.

Keywords: *Drag coefficients; Piles; Wave forces*

This report reviews the statistical distribution of ocean wave forces based on formulas of earlier investigations. Tables present the probability density and distribution function of wave forces, particularly for use with piles. The tables obviate lengthy computations and are useful in engineering design. Five methods for the estimation of C_D and C_M are given. Wave forces measured near Davenport, California, illustrate the use of the tables and methods. A method of moments is easiest to apply, but the least squares methods give more consistent results.

TM 25 ....683 491
WILSON, B.W., and TØRUM, A., "The Tsunami of the Alaskan Earthquake, 1964: Engineering Evaluation," May 1968.

Keywords: *Alaska; Earthquakes; Seismic sea waves; Tsunamis*

This report relates the earthquake to the generation, propagation, and dispersion of main tsunami waves and gives detailed studies of the main tsunami and local seismic sea waves for damaged areas. In addition to the wave analysis for each location, the report presents an engineering evaluation for severely damaged areas. It includes marigrams of component waves and oscillations for many places and

relates the tsunami waves to local bay and shelf oscillations and to the local tides.

TM 26 ....684 894

BODINE, B.R., "Hurricane Surge Frequency: Estimated for the Gulf Coast of Texas," Feb. 1969.

Keywords: *Hurricanes; Storm surge*

In an investigation of 19 hurricanes of record since 1900, a method was developed for assigning frequencies to water levels of hypothetical hurricanes with various prescribed values of hurricane parameters--central pressure index, forward speed, and radius of maximum winds. A method is also presented for estimating surge frequency in inland bays and adjacent regions subject to flooding by hurricanes. Results are presented in tables and curves.

TM 27 ....690 803

WATKINS, L.L., "Corrosion and Protection of Steel Piling in Seawater," May 1969.

Keywords: *Cathodic protection; Concrete jackets; Piles; Protective coatings*

The report, based on a survey of literature, assembles much of the current knowledge concerning corrosion and protection of steel piling in seawater. Causes of corrosion and effects of environmental conditions are presented. Results of tests on protective coatings for steel are included. Corrosion rates of bare steel piles and the factors involved in the use of cathodic protection and concrete jackets are explained. References surveyed show that flame-sprayed zinc sealed with vinyl is possibly the best coating system tested. More data are needed to determine the most economical method of protecting steel piling in seawater.

TM 28 ....693 867

CARSTENS, M.R., NEILSON, F.M., and ALTINBILEK, H.D., "Bed Forms Generated in the Laboratory Under an Oscillatory Flow: Analytical and Experimental Study," June 1969.

Keywords: *Bed forms; Drag coefficients; Dunes; Ripples; Sediment transport*

Bed forms in a bed of uniform sand in an oscillatory-flow water tunnel were studied experimentally to determine incipient motion, evolution of a duned bed, geometry of equilibrium dunes, and energy dissipation in the flow over a dune bed. The ratio of dune amplitude to mean particle diameter and the ratio of dune amplitude to dune wavelength were found to be unique functions of a single variable--ratio of water motion amplitude to mean particle diameter. Oscillatory flow over a duned bed and a smooth, flat bed was compared with regard to added energy dissipation, and results are presented in terms of difference in boundary drag coefficients between the duned bed and the smooth flat bed.

EM [illegible] 699 339

[illegible], D.B., and [illegible], E.P., "Geomorphology and Sediments of the [illegible] Continental Shelf, Miami to Palm Beach, Florida," Nov. 1969.

[illegible] - *[illegible]; Continental Shelf; Geomorphology; ICONS; [illegible], FL; [illegible], FL; Seismic reflection*

The [illegible] shelf off southeast Florida between Palm Beach and [illegible] [illegible] by CERC to locate and evaluate sand deposits usable for [illegible]. Survey data covered 141 square miles [illegible] of the shelf between 15- and 100-foot depths and consisted of [illegible] profiles and sediment cores from the sea floor. [illegible], [illegible] sediments from the shelf off southeast [illegible] of [illegible] quality.

[illegible] 701 903

[illegible], [illegible], "CERC Wave Gages," Dec. 1969.

[illegible] - *[illegible], [illegible], Instrumentation*

CERC has used wave gages to gather prototype wave data since 1948. [illegible] of gages are now used in the field--the step-resistance [illegible] gage and the underwater pressure-sensitive gage. CERC has developed [illegible] of [illegible]: a series type for fresh water, a parallel type for salt water, and a relay-operated type for use in either [illegible] or salt water where wide changes in salinity occur. The [illegible] gage, used in water of any salinity, is not as accurate as the [illegible] gages. The report describes each gage and the theory of operation, details of fabrication, steps for calibration and installation, and maintenance requirements.

[illegible] 707 417

[illegible], [illegible], "[illegible] Velocity in Water Waves with an [illegible]," [illegible] 1970.

[illegible] - *[illegible]; Instrumentation*

The [illegible] reports an investigation to adapt an acoustic [illegible] to measure velocities in water waves. The flowmeter was designed to measure difference in traveltimes of two acoustical pulses [illegible] in opposite directions along a common path. [illegible] a low-velocity flow occurs behind each [illegible], and measured velocity is less than actual velocity when the angle between the acoustical path and velocity vector, [illegible], is small. When this angle is [illegible] large, the wake has little effect on [illegible], and measured velocity equals actual velocity times cos [illegible]. The study shows that the wake effect may be eliminated by simultaneous measurements along multiple paths.

[illegible] 715 720

[illegible], [illegible], "[illegible] Schemes Compared for Wave-Deformation [illegible] Modeling of Two-Dimensional Long Wave Propagation," [illegible] 1971.

Keywords: *Mathematical models; Storm surge; Tides*

The wave-deformation characteristics of several different schemes for two-dimensional long wave propagation are compared by means of the propagation factor introduced by J.J. Leendertse. The schemes compared are those proposed by N.S. Heaps, R.O. Reid and B.R. Bodine, J.J. Leendertse, and M.B. Abbott. The study also demonstrates the differing behavior of explicit and implicit schemes.

TM 33 ....717 034
JUDGE, C.W., "Heavy Minerals in Beach and Stream Sediments as Indicators of Shore Processes Between Monterey and Los Angeles, California," Nov. 1970.

Keywords: *Heavy minerals; Point Conception, CA; Sediment transport; Ventura, CA*

A study of heavy minerals on the California coast was made at CERC. Beach samples were supplemented by samples from offshore and the rivers. Heavy minerals in the 63- to 125-micrometer fraction of the samples were identified by optical techniques. Five provinces were identified: a north Hornblende, a north Augite, an Epidote, a south Augite, and a south Hornblende. Analyses gave some indication of net littoral transport, but heavy minerals were not definitive indicators of littoral drift from Pt. Conception to Ventura.

TM 34 ....724 135
MEISBURGER, E.P., and DUANE, D.B., "Geomorphology and Sediments of the Inner Continental Shelf, Palm Beach to Cape Kennedy, Florida," Feb. 1971.

Keywords: *Cape Kennedy, FL; Geomorphology; ICONS; Palm Beach, FL; Seismic reflection*

The Inner Continental Shelf off eastern Florida was surveyed to obtain information on bottom morphology and sediments, subbottom structure, and sand deposits suitable for beach fill. Primary survey data consist of seismic reflection profiles and sediment cores. Beach sediment consists of quartzose sand and shell fragments. Median size of midtide samples generally lies in the range of 0.3- to 0.5-millimeter (1.74-to 1.0-phi) diameter. The shelf area is a submerged sedimentary plain of low relief. Ridgelike shoals resting on the seaward-dipping subbottom strata contain material suitable for beach fill. Minimum volume of 92.2×10^6 cubic yards is available.

TM 35 ....728 128
BODINE, B.R., "Storm Surge on the Open Coast: Fundamentals and Simplified Prediction," May 1971.

Keywords: *Chesapeake Bay; Hurricanes; Mathematical models; Storm surge*

A quasi two-dimensional numerical model for open-coast storm surge computations is discussed from the standpoint of underlying assumptions, range of validity, calibration, and application. Elementary

aspects of hurricanes and physical factors of storm generation are discussed. The basic hydrodynamic equations are given, together with assumptions made in their development. Equations consistent with the model are reduced forms of basic equations in which several terms have been neglected. Use of design hurricanes for engineering studies is discussed. Effects of tide, initial water level, and atmospheric pressure setup are considered. A problem for the Chesapeake Bay entrance is solved by computer and manually. The program is listed.

TM 36 ....732 833
STAFFORD, D.B., "An Aerial Photographic Technique for Beach Erosion Surveys in North Carolina," Oct. 1971.

Keywords: *Aerial photography: Carteret County, NC: Onslow County, NC*

A procedure was developed to survey coastal erosion by measurements made on aerial photos. Results obtained by using the technique in Onslow and Carteret Counties in North Carolina are presented. The procedure consists of selecting stable reference points on aerial photos taken in different years and measuring between these points and points on the transient beach. The changes in the dune line and the high waterline were determined. A special effort was made to reduce the effects of inherent errors in the photos. The procedure was concluded to be applicable to a wide range of coastal conditions, and it has several advantages over alternative data collection methods.

TM 37...748 414
THOMSEN, A.L., WOHLT, P.E., and HARRISON, A.S., "Riprap Stability on Earth Embankments Tested in Large- and Small-Scale Wave Tanks," June 1972.

Keywords: *Armor units; Hydraulic models; Quarrystone; Riprap; Tribars*

Tests of models in wave tanks were made to determine the effectiveness of several riprap designs in protecting embankment slopes from wave action. Models ranging from about 1:20 scale to almost full scale were tested with waves up to about 6 feet high. A range of wave periods was tested; embankment slopes varied from 1 on 2 to 1 on 5. Armor layers were composed of quarrystone, glacial boulders, and tribars. Relationships that define the effect of wave height, wave period, embankment slopes, and Reynolds number on size of stable armor units were experimentally determined and are given in graphs and tables.

TM 38 ....749 545
MEISBURGER, E.P., "Geomorphology and Sediments of the Chesapeake Bay Entrance," June 1972.

Keywords: *Beach nourishment; Chesapeake Bay; Geomorphology; ICONS; Seismic reflection*

The Chesapeake Bay entrance and the Atlantic Ocean in the Cape Charles and Cape Henry vicinities were surveyed to study the bottom morphology and sediments and subbottom structure to locate suitable

sand deposits for possible shore nourishment. Seismic reflection profiles and sediment cores were the basis for the study. Figures show underwater terrace locations in the inshore, shallow bay, and deepwater areas.

TM 39 ....766 721
PARARAS-CARAYANNIS, G., "Ocean Dumping in the New York Bight: An Assessment of Environmental Studies," May 1973.

Keywords: *Dredging; New York Bight*

Short-term studies on effects of ocean dumping in the New York Bight were contracted by CERC. Studies included hydrographic, geological, chemical, and biological investigations and an electronic sensor survey to detect locations and dump status of waste disposal vessels. Circulation patterns were determined. Chemical analyses of water samples were made, and sediment and biological samples were analyzed. Included are studies of marine life, bacteria, and waste disposal. Impacts on ecology and water quality are discussed.

TM 40 ....768 791
RHODES, E.G., "Pleistocene-Holocene Sediments Interpreted by Seismic Refraction and Wash-Bore Sampling, Plum Island-Castle Neck, Massachusetts," July 1973.

Keywords: *Geomorphology; Plum Island, MA; Seismic reflection*

The wash-bore method of soil sampling was found to be an excellent means for subsurface study in coastal areas. Considerations in interpretation of seismic refraction records are (1) the blind zone, (2) the nonzero time intercept, (3) time gaps in the time-distance plots over buried peat, and (4) variable thicknesses of dry sand layers. The seismic method successfully located buried Pleistocene and bedrock topography.

TM 41 ....778 733
COURTENAY, W.R., et al., "Ecological Monitoring of Beach Erosion Control Projects, Broward County, Florida, and Adjacent Areas," Feb. 1974.

Keywords: *Beach nourishment; Broward County, FL; Ecology*

Ecological monitoring of algae, invertebrates, and fishes was conducted along the southeast Florida coast in connection with offshore dredging and beach nourishment projects. One area surveyed showed no adverse ecological effects; reef damage by dredging equipment was found in another area. Ecological data have been recorded for three other areas proposed for dredge and fill operations.

TM 42 ....779 513
FIELD, M.E., and DUANE, D.B., "Geomorphology and Sediments of the Inner Continental Shelf, Cape Canaveral, Florida," Mar. 1974.

Keywords: *Beach nourishment; Cape Canaveral, FL; Geomorphology; ICONS*

The Atlantic Inner Continental Shelf off central Florida was surveyed by CERC to obtain data on morphology, structure, and sediments of the sea floor for interpretation of Quaternary history and delineation of sand deposits suitable for beach restoration. Basic survey data consists of 360 miles of seismic reflection profiling and 90 sediment cores from depths of 20 to 90 feet below sea level.

TM 43 ....778 740
KEITH, J.M., and SKJEI, R.E., "Engineering and Ecological Evaluation of Artificial-Island Design, Rincon Island, Punta Gorda, California," Mar. 1974.

Keywords: *Armor units; Artificial islands; Rincon Island, CA; Tetrapods*

Rincon Island is a manmade offshore island composed of armor rock and tetrapod revetments enclosing a sand core. An evaluation after 14 years shows no damage by waves, littoral transport has been unaffected, little subsidence has occurred, and a thriving community of marine organisms has developed.

TM 44 ....785 572
KRUMBEIN, W.C., and JAMES, W.R., "Spatial and Temporal Variations in Geometric and Material Properties of a Natural Beach," June 1974.

Keywords: *Pt. Mugu, CA; Shore processes*

Maps of beach foreshore properties give spatial continuity to beach observations; repetitive sampling gives the areal patterns with continuity in time. Rapid measurements and data reduction yield real-time data for analyzing beach phenomena in theoretical and applied geological and coastal engineering studies. Mapped properties form an interlocked complex of foreshore responses to ongoing shore processes. The influence of erosion and deposition during successive tidal cycles was examined. Results show difference in some aggregate properties.

TM 45 ....785 577
WILLIAMS, S.J., and DUANE, D.B., "Geomorphology and Sediments of the Inner New York Bight Continental Shelf," July 1974.

Keywords: *Beach nourishment; Continental Shelf; Geomorphology; ICONS, New York Bight*

The Inner New York Bight Continental Shelf off northern New Jersey and western Long Island was surveyed to obtain data on morphology, structure, and sediments of the sea floor for interpretation of geologic history and delineation of sand deposits for beach restoration. Basic survey data consist of 445 miles of seismic reflection profiling and 61 vibratory cores. Comparison of bathymetric maps has confirmed that parts of the natural Hudson Channel have been filled from ocean disposal of 1 billion cubic yards of anthropogenic materials.

TM 46 ....002 055
WOODHOUSE, W.W., Jr., SENECA, E.D., and BROOME, S.W., "Propagation of Spartina alterniflora for Substrata Stabilization and Salt Marsh Development," Aug. 1974.

Keywords: *Transplanting; Vegetation*

Describes techniques developed for the propagation of *Spartina alterniflora* (smooth cordgrass) in the intertidal zone of dredged material and eroding shorelines. Both seeding and transplanting methods were successful. The relationship of mineral nutrition to productivity of *S. alterniflora* was also determined.

TM 47 ....002 056
CHAO, Y.Y., "Wave Refraction Phenomena Over the Continental Shelf Near the Chesapeake Bay Entrance," Oct. 1974.

Keywords: *Chesapeake Bay; Chesapeake Light Station; Mathematical models; Refraction, wave*

A computer refraction program for an area near the Chesapeake Light Station is presented. A cubic spline interpolation scheme is used to define depths at grid points on bathymetric charts. Wave refraction phenomena are summarized in useful forms. Refraction parameters were combined with numerical wave forecasting and hindcasting to calculate refracted wave spectra at a target. A comparison with wave data from the light station was satisfactory.

TM 48 ....A008 011
McCLENAN, C.M., and HARRIS, D.L., "The Use of Aerial Photography in the Study of Wave Characteristics in the Coastal Zone," Jan. 1975.

Keywords: *Aerial photography; Diffraction, wave; Refraction, wave*

The report discusses conditions for good aerial photos of waves and presents examples of many phenomena in wave behavior observed from the perspective afforded by a high elevation.

TM 49 ....A009 755
BALSILLIE, J.H., "Analysis and Interpretation of Littoral Environment Observation (LEO) and Profile Data Along the Western Panhandle Coast of Florida," Mar. 1975.

Keywords: *Aerial photography; Currents; Geomorphology; LEO; Profiles; Storms*

A 100-mile segment of the Florida gulf coast was studied for analysis and interpretation of littoral phenomena and profile data. Longshore transport rates have been predicted and compared to earlier studies. A physiographic review is presented.

TM 50 ....A012 799
PARARAS-CARAYANNIS, G., "Verification Study of a Bathystrophic Storm Surge Model," May 1975.

Keywords: *Hurricanes; Mathematical models; Storm surge*

Verification of a bathystrophic storm surge numerical model is presented. Historical hurricane data from traverses on the gulf and east coasts were used to calibrate combined values of wind and bottom-stress coefficients in hydrodynamic equations for a numerical computation.

TM 51 ....A012 792
AHRENS, J.P., "Large Wave Tank Tests of Riprap Stability," May 1975.

Keywords: *Hydraulic models; Riprap*

Riprap stability under wave attack was tested at prototype scale in a large wave tank at CERC. Various wave heights, wave periods, and embankment slopes were tested. The study showed that wave period has a significant effect on riprap stability.

TM 52 ....A014 136
GARBISCH, E.W., Jr., WOLLER, P.B., and McCALLUM, R.J., "Salt Marsh Establishment and Development," June 1975.

Keywords: *Chesapeake Bay; Dredging; Marshes; Vegetation*

Establishment and development of vegetation within the intertidal and supratidal zones on salt marshes and dredged materials to stabilize shorelines and abate shoreline erosion are reported for the mid-Chesapeake Bay region.

TM 53 ....A014 168
JUDGE, C.W., "Use of the Radioisotopic Sand Tracer (RIST) System," June 1975.

Keywords: *Amphibious vehicles; RIST*

Report analyzes and discusses the equipment and procedures used in the RIST program at CERC. Guidelines are presented for users of the RIST system.

TM 54 ....A015 022
MEISBURGER, E.P., and FIELD, M.E., "Geomorphology, Shallow Structure, and Sediments of the Florida Inner Continental Shelf, Cape Canaveral to Georgia," July 1975.

Keywords: *Beach nourishment; Geomorphology; ICONS; Seismic reflection*

The Inner Continental Shelf off eastern Florida was surveyed to obtain data on bottom morphology and sediments, subbottom structure, and sand deposits suitable for beach restoration and nourishment. Primary survey data consist of 1153 miles of seismic reflection profiling and 197 sediment cores.

TM 55 ....A015 514
McCARTNEY, B.L., and AHRENS, J.P., "Stability of Gobi Block Revetment to Wave Attack," Oct. 1975.

Keywords: *Armor units; Gobi blocks; Hydraulic models; Revetments*

Tests of Gobi block revetment stability under wave attack were conducted at prototype scale in a large wave tank at CERC. Wave heights ranging from 1.6 to 3.2 feet and wave periods from 2.8 to 8.5 seconds were used. A 1-on-3.5 embankment slope was tested. Stability compared favorably with similar weight riprap on the same slope. A prototype installation in Louisiana showed greater stability than the wave tank tests; this was attributed to sand and gravel wedged between the blocks.

TM 56 ....AD23 683
WHITAKER, R.E., REID, R.O., and VASTANO, A.C., "An Analysis of Drag Coefficient at Hurricane Windspeeds from a Numerical Simulation of Dynamical Water Level Changes in Lake Okeechobee, Florida," Oct. 1975.

Keywords: *Drag coefficients; Hurricanes; Lake Okeechobee FL; Storm surge*

A time-dependent, two-dimensional storm surge algorithm was used to estimate the drag coefficient over the windspeed range. The algorithm represents a vertically integrated physical model which includes non-linear boundary conditions representing flooding and recession. Wind and water level data were gathered in the Lake Okeechobee, Florida, region.

TM 57 ....A020 028
LIU. P.L., and MEI, C.C., "Effects of a Breakwater on Nearshore Currents Due to Breaking Waves," Nov. 1975.

Keywords: *Breakwaters; Currents; Diffraction, wave; Refraction wave*

A semiempirical theory of nearshore currents due to breaking waves in close proximity to a shore-connected breakwater or an offshore breakwater is presented. The effects of diffraction are studied in addition to refraction by shoaling waters.

TM 58 ....A019 512
BALSILLIE, J.H., "Surf Observations and Longshore Current Prediction," Nov. 1975.

Keywords: *Currents; Geomorphology; LEO; Profiles; Pt. Mugu, CA*

Simultaneous field observations of breakers and current behavior using techniques of the LEO program are presented. Longshore current behavior is investigated by observed and predicted observations. The data base represents a 1-year collection effort at Pt. Mugu, California.

TM 59 ....A019 803
McCLENAN, C.M., "Simplified Method for Estimating Refraction and Shoaling Effects on Ocean Waves," Nov. 1975.

Keywords: *Refraction, wave; Shoaling*

This report presents a nomogram for the computation of combined refraction-shoaling coefficients for straight and parallel bottom contours. The nomogram permits a rapid solution of idealized refraction phenomena. The technique provides a useful first estimate to the true solution and, for many problems, as accurate a solution as other time-consuming methods.

TM 60 ....A019 936
JAMES, W.R., "Techniques in Evaluating Suitability of Borrow Material for Beach Nourishment," Dec. 1975.

Keywords: *Beach nourishment,*

Recent developments in methodology for selection of borrow material and determination of volumetric requirements for beach restoration and periodic nourishment have been presented in three separate reports. This report compares and contrasts the three techniques and recommends guidelines for use in practical applications.

TM 61 ....A021 057
SCHWARTZ, R.K., "Nature and Genesis of Some Storm Washover Deposits," Dec. 1975.

Keywords: *Outer Banks, NC; Presque Isle, PA; Washover deposits*

This study examines freshly formed small-scale washover deposits along the Atlantic coast at Outer Banks, North Carolina, and along Lake Erie at Presque Isle Peninsula, Pennsylvania, to determine their stratigraphic properties, mode of placement, and relationship to adjacent barrier morphology.

TM 62 ....A020 641
LOFQUIST, K.E.B., "An Effect of Permeability on Sand Transport by Waves."

Keywords: *Hydraulic models; Permeability; Ripples; Sediment transport*

This study discusses permeability effects on the movement of sand in oscillatory flows observed in laboratory experiments which approximate prototype conditions at the seabed under progressive waves. Natural sand is used, wave periods range between 3 and 14 seconds, and sand surfaces are naturally rippled. Effects of permeability are cumulative and can be significant in coastal processes of long duration.

MP 1-64 .... 440 882
HALL, J.V., Jr., and JACHOWSKI, R.A., "Concrete Block Revetment Near Benedict, Maryland," Jan. 1964.

Keywords: *Armor units; Benedict, MD; Concrete blocks; Erosion; Patuxent River, MD; Revetments*

The design and construction of a low-cost groin for shore protection erected near Benedict, Maryland, are discussed. Comparative photos of the area before, during, and after completion of the project are also presented.

MP 2-64 .... 440 883
KADIB, A., "Calculation Procedures for Sand Transport by Wind on Natural Beaches," Apr. 1964.

Keywords: *Salmon Beach, CA; Windblown sand*

Available methods for calculating the actual rate of sand transport by wind are summarized. Specific procedures and calculation for determining the annual rate of sand transported from the beach inland by wind at Salmon Beach, California, are presented.

MP 3-64 .... 440 884
RAYNOR, A.C., and SIMMONS, G.W., "Summary of Capabilities," Apr. 1964.

Keywords: *CERC; Laboratories*

The mission, history, organization, and physical facilities of the Coastal Engineering Research Center (in 1964) are presented. The Center, primarily a hydraulic laboratory, has a 635-foot tank in which 6-foot waves can be generated for prototype testing. This and other testing wave tanks are described in detail. Supporting facilities include a petrology laboratory, an electronic instrumentation laboratory, a data reduction and computation shop, and an excellent coastal engineering library which is available for researchers.

MP 4-64 .... 453 227
RAYNOR, A.C., ed., "Land Against the Sea," May 1964.

Keywords: *Shore processes*

This report describes (in nontechnical language) the origin and nature of our seacoasts, the forces to which those coasts are exposed, the behavior of the shores under exposure to those forces, the effects thereon of development by man, and the characteristics of methods for the protection and improvement of the shore. Also disscussed are (1) the roles of the local, State, and Federal Governments in providing for sound development; (2) protection and improvement of the shore; and (3) the need of long-range planning for preservation of our coastal resources.

MP 5-64..612 764
VESPER, W.H., and ESSICK, M.G., "A Pictorial History of Selected Structures Along the New Jersey Coasts," Oct. 1964.

Keywords: *Pictorial history*

Comparative photos (ground shots) of shore structures in New Jersey are shown covering the period 1930 to 1961.

MP 6-64..612 765
HARRISON, W., and WAGNER, K.A., "Beach Changes at Virginia Beach, Virginia," Nov. 1974.

Keywords: *Profiles; Shore processes; Virginia Beach, VA*

Descriptive summary of results of repeated profiles measured daily, weekly, or monthly for four transects is presented. The study was not intended to present definitive analysis relating wave action to adjustments in the shore profile, but rather serves to show magnitude of profile variations to be expected over a period of years, seasonally, or in one case, for a single violent storm. Data are also presented and discussed relating to significance of rhythmic undulations of longshore bar-trough systems as they affect range of cut and fill along offshore profiles.

MP 1-66..629 978
TANEY, N.E., "Interagency Conference on Continental Shelf Research," Jan. 1966.

Keywords: *Continental Shelf; Geomorphology; Sediment transport*

Proceedings of an Interagency Conference on Continental Shelf Research, held at CERC on 13 May 1965, are presented. The contributions describe the magnitude and direction of continental shelf research being conducted by the various interested Federal agencies.

MP 1-67..652 252
DARLING, J.M., and DUNN, D.G., "The Wave Record Program at CERC," Jan. 1967.

Keywords: *Gages, wave; Wave characteristics*

This report presents a summary of the wave-recording program at CERC and the former Beach Erosion Board. It describes sensors and recorders used and methods of analysis and lists information concerning wave gage stations, their locations, dates of establishment, equipment used, present status, and periods of time for which records and analyses have been made. The report also (1) presents information concerning U.S. Coast Guard stations which have supplied visual observation data and (2) lists the stations, time of establishment, present status, and time periods of observations.

MP 2-67...652 253
GALVIN, C.J., and NELSON, R.A., "A Compilation of Longshore Current Data," Mar. 1967.

Keyword: *Currents*

A compilation of published longshore current data comprising 352 separate observations: 225 from four laboratory studies and 127 from four field studies. Eight tables of data include measured longshore current velocity, wave direction, wave height, wave period, and beach slope.

MP 3-67...655 259
MONROE, F.F., "A Feasibility Study of a Wave-Powered Device for Moving Sand," June 1967.

Keyword: *Dredging*

A model of a wave-powered, sand-moving device, suggested by the staff of the U.S. Rubber Company Research Center, was tested for feasibility as a dredging device in 1965. Tests were made at a 1:15 scale. Waves with prototype periods of 5 to 15 seconds were tested. Wave heights varied from 1.1 to 4.4 prototype feet in prototype offshore depths of 18.7, 24.5, and 30 feet. Results indicate the device, at least in its present form, is unsuitable for moving sand shoreward from offshore sources, and further testing in the prototype is not justified. Despite disappointing results, operation of the device illustrates the possibility of a great potential for utilization of wave power.

MP 1-68...673 721
ALLEN, R.H., and SPOONER, C.E., "Annotated Bibliography of BEB and CERC Publications," July 1968.

Keyword: *Bibliographies*

This bibliography of BEB publications from 1940 to 1963 and of CERC publications from 1963 to 1967 includes a summary or abstract with each entry. Included is a list of Beach Erosion Control Reports that have been published as House Documents. To aid the user there are indexes of authors, titles, and subjects.

MP 1-69...688 877
MONROE, F.F., "Oolitic Aragonite and Quartz Sand; Laboratory Comparison Under Wave Action," Apr. 1969.

Keywords: *Hydraulic models; Oolitic aragonite; Quartz sand*

Oolitic aragonite (or oolite) occurs in the Bahama Islands and has been suggested as a material for beach nourishment. CERC tested oolite under laboratory wave conditions by comparing it with quartz sand with the same hydraulic-size characteristics. Early tests indicated that both materials behave similarly under various wave heights and periods. Another test simulated beach nourishment; the two materials behaved

almost identically. Since materials used had prototype characteristics and were compared in a small-scale laboratory test, no accurate correlation to a prototype wave climate can be projected. The softness of oolite and the possibility of biological contamination could be significant in large field tests.

MP 2-69 .... 690 806
DUANE, D.B., and JUDGE, C.W., "Radioisotopic Sand Tracer Study, Point Conception California," May 1969.

Keywords: *Point Conception, CA, Profiles, RIST*

The purpose is to develop radioactive tracers to research sediment movement and littoral processes. Objectives include determination of suitable isotopes and development of detectors. Sand indigenous to the area was labeled with xenon-133. A mobile system mounted on a towed "sled" detected radiation. Computer programs corrected and plotted radiation data. Field tests at Point Conception included isotope distribution, sediment analysis, offshore profiles, and oceanic and atmospheric-environment monitoring. Model tests at CERC compared high and low specific activity xenon.

MP 3-69 .... 697 715
URBAN, H.D., and GALVIN, C.J., "Pipe Profile Data and Wave Observations from the CERC Beach Evaluation Program, January-March 1968," Sept. 1969.

Keywords: *Atlantic City, NJ, Beach Evaluation Program-CERC, Jones Beach, NY; Long Beach Island, NJ, Long Island, NY, Ludlam Island, NJ; Profiles; Shore processes; Westhampton Beach, NY*

Observations of sand levels at pipes placed from dune to low tide terrace along profile lines on five beaches proved a feasible method of surveying beach profiles. For 1-week intervals, January-March 1968, maximum changes at any pipe were 3.7 feet of erosion and 4.7 feet of accretion. Changes in sand level were more likely at pipes on the beach face than at those below mean sea level. Data showed beach steepness and fluctuations in level usually decrease in a north-to-south direction for beaches studied (from Westhampton Beach, New York, to Ludlam Island, New Jersey) in a way that appears related to decreases in wave height and sediment size. Appendixes show profile data and wave observations.

MP 1-70 .... 702 902
GAGE, B.O., "Experimental Dunes of the Texas Coast," Jan. 1970.

Keywords: *Barrier islands; Corpus Christi Pass, TX; Dune Fences, sand; Galveston Island, TX; North Padre Island, TX; Packery Channel, TX; Vegetation*

This report describes experiments of creating and stabilizing sand dunes to protect the coast. Four locations were selected: the southwest end of Galveston Island, Packery Channel, Newport Pass on North Padre Island, and Corpus Christi Pass. Low areas of the barrier

islands were planted in beach grass in an attempt to establish dunes without the aid of sand fences. Sand fencing was used to accumulate windblown sand, and beach grass planted to stabilize dunes. Junk car bodies were placed in line parallel to beaches to establish and stabilize dunes by trapping sand. Since sand fences are more effective and much cheaper, junk cars are not recommended for building dunes.

MP *2-70*..704 720
SZUWALSKI, A., "Littoral Environment Observation Program in California, Preliminary Report," Feb. 1970.

Keywords: *[illegible]; LEO*

This report describes the Littoral Environment Observation (LEO) program, and assembles in one paper the data collected under the program in February-December 1968. LEO is a cooperative effort of the State of California and the Corps of Engineers to collect littoral data. Beach characteristics recorded are foreshore slope, width and elevation of berm, presence of cusps, and sediment samples. Sea variables include tide level, wave height, period and direction, type of breaker, direction and velocity of littoral currents, presence of rip currents, and water temperature. Wind velocity and direction are recorded, and panoramic photos are obtained. The data collected are being used as a base to analyze physical characteristics of the shoreline and littoral processes affecting it.

MP *3-70*..708 556
TURNER, P.A., "RAPLOT, A Computer Program for Data Processing and Graphical Display for Radioisotopic Sand Tracer Study," May 1970.

Keywords: *Mathematical models; RIST*

RAPLOT II, a program for processing data from field surveys of Radioisotopic Sand Tracer Study (RIST), is applicable to any survey-type operation on the nearshore shelf. Collected data, punched onto paper tape on the research vessel, are later transferred to magnetic tape for input into RAPLOT II. Program control parameters are on punchcards. Navigation data are converted to coordinates (here, the California Lambert Coordinate System). Radiation data are converted to counts per second. Output is printed, graphical, and on magnetic tape. Processed data are transferred to magnetic tape for further processing, such as generation of contour maps.

MP *4-70*..713 001
DUANE, D.B., "Tracing Sand Movement in the Littoral Zone: Progress in the Radioisotopic Sand Tracer (RIST) Study, July 1968-February 1969," Aug. 1970.

Keyword: *RIST*

Tagging procedures, instrumentation, field surveys, and data-handling techniques have been developed by the radioisotopic sand-tracing study for the collection and analysis of more than 12,000 bits of information per hour over a survey track of more than 18,000 feet.

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1972. Imagery for the index is compiled by the Defense Mapping Agency Topographic Command (DMATC) under support and direction of CERC.

MP 1-73..756 366
THOMPSON, J.R., "Ecological Effects of Offshore Dredging and Beach Nourishment: A Review," Jan. 1973.

Keywords: *Beach nourishment; Dredging; Ecology*

A review of ecological effects of offshore dredging is presented. Although basic ecological works are available, there has been little concrete effort to determine effects of offshore dredging; additional research is needed to approach full understanding. The report shows that a beach may be divided into three zones on the basis of moisture and biota and describes the possible effects on these biota from offshore dredging and deposition of sediments. Background material and impacts on both offshore dredged areas and nourished beaches and suggestions for further research are included. A selected bibliography is included.

MP 2-73..766 720
STAFFORD, D.B., BRUNO, R.O., and GOLDSTEIN, H.M., "An Annotated Bibliography of Aerial Remote Sensing in Coastal Engineering," May 1973.

Keywords: *Bibliographies, Remote sensing*

A bibliography of representative literature covering the applications of aerial remote sensing techniques to coastal engineering and comprising about 200 references published since 1934 is presented. Annotations accompany each bibliographic entry and are a concise and informative summary of the references describing the characteristics of each remote sensor in coastal engineering investigations. Computer indexes of authors, titles, and keywords are included.

MP 3-74..777 911
BOOTHROYD, J.C., and HUBBARD, D.K., "Bed Form Development and Distribution Pattern, Parker and Essex Estuaries, Massachusetts," Feb. 1974.

Keywords: *Bed forms; Essex Estuary, MA; Parker Estuary, MA*

Velocity, depth, temperature, grain size, and bed-form scale and orientation were measured for complete tidal cycles at 90 stations in two New England estuaries. Scuba observation of bed-form change and migration, echosounder profiles, and 700 bed-form scale and orientation readings have led to a sequence of bed forms based on increasing "flow strength."

MP [illegible]..777 764
[illegible], "A Glossary of Geological Terms for Coastal Engineers," [illegible].

Keywords: *[illegible]*

A glossary of basic geologic terms commonly encountered in the field

of coastal engineering is presented. The terms are applicable to, but not necessarily restricted to, marine and freshwater environments of the coastal zone. Terms are cross-referenced and defined in nontechnical language for use by nonecologists.

MP 3-74...785 747
JOHNSON, J.W., "Bolinas Lagoon Inlet, California," May 1974.

Keywords: *Bolinas Lagoon, CA; Tidal inlets*

The hydraulic and sedimentary characteristics of tidal inlets on sandy coasts are of great interest to engineers involved in harbor design and maintenance. The Bolinas Bay-Lagoon system is a natural laboratory in which a large amount of data has been compiled. The source, nature, and availability of the data on Bolinas Lagoon inlet are summarized as a guide to future studies at Bolinas and at other inlets.

MP 4-74...785 552
HURD, J., "Hydraulic Method Used for Moving Sand at Hyperion Beach Erosion Project, El Segundo, California," June 1974.

Keywords: *Beach nourishment; Hyperion Beach, CA*

This report describes a project near Los Angeles in 1947. The hydraulic method of moving sand was used to widen Hyperion Beach against erosion; about 14 million cubic yards was moved. The report describes the process in detail, shows photos and drawings of the equipment and work, and also shows aerial progress photos of the area. Recommendations for using the method in other areas are presented.

MP 1-75...AD08 010
DUANE, D.B., et al., "A Primer of Basic Concepts of Lakeshore Processes," Jan. 1975.

Keywords: *Bibliographies; Great Lakes; Lakeshore processes*

Report gives a simplified description of the physical processes affecting erosion on lakeshores, specifically the Great Lakes. A detailed bibliography is presented.

MP 2-75...AD09 500
COASTAL ENGINEERING RESEARCH CENTER, "Guidelines for Monitoring Shore Protection Structures in the Great Lakes," Feb. 1975.

Keywords: *Great Lakes; Monitoring guidelines*

Extent of wave damage to shores is difficult to predict. Shore behavior should be observed to determine the need for a shore protection structure. Optimum and minimum plans for recording shoreline changes and monitoring groins, seawalls, revetments, and offshore breakwaters are given. Simple shore erosion computations and a data analysis program are presented.

MP 3-75...AD12 843
PERAINO, J., et al., "Features of Various Offshore Structures," Apr. 1975.

Keywords: *Bibliographies; Breakwaters; Coastal structures*

This report presents the classification and identification of some existing offshore structures and provides a means of comparison for various structures from the technical, environmental, and economic aspects. A bibliography follows each structure description.

MP 4-75...AD10 348
PERAINO, J., and PLODOWSKI, T., "Concept Analysis: Offshore Breakwater-Oil Storage System," Apr. 1975.

Keywords: *Breakwaters; Petroleum storage system; Port structures*

A concept analysis to determine a satisfactory method of providing an answer to the fast-growing need for an offshore breakwater-oil storage system is presented.

MP 5-75...AD12 854
SALOMAN, C.H., "A Selected Bibliography of the Nearshore Environment: Florida West Coast," Apr. 1975.

Keyword: *Bibliographies*

This bibliography includes a collection of over 2900 references on ecological and coastal engineering subjects related to the nearshore environment of the Florida west coast. References are grouped by subject and alphabetized by author within each subject heading.

MP 6-75...AD12 839
DODD, J.D., and WEBB, J.W., "Establishment of Vegetation for Shoreline Stabilization in Galveston Bay," Apr. 1975.

Keywords: *Galveston Bay, Texas; Vegetation*

This report discusses the resident species of plants adapted to saline conditions for control of shore erosion in bays and estuaries. The 12 plant species selected are evaluated for their ability to stabilize shorelines. Several combinations of species are suggested for different zones. An inexpensive wave-stilling device to protect plantings from wave action is described.

MP 7-75...AD14 137
HALL, V.L., and LUDWIG, J.D., "Evaluation of Potential Use of Vegetation for Erosion Abatement Along the Great Lakes Shoreline," June 1975.

Keywords: *Great Lakes; Vegetation*

This study identifies and evaluates shoreline plants with potential, either alone or in combination with structures, to alter the erosion

rate along shores of the Great Lakes. It was determined that plants alone are not suitable erosion controllers along most shores because of severe wave action.

MP 8-75..A016 948
NYBAKKEN, J., and STEPHENSON, M., "Effects of Engineering Activities on the Ecology of Pismo Clams," Sept. 1975.

Keywords: *Monterey Bay, CA; Pismo clams*

Three aspects of the ecology of Pismo clams were investigated in Monterey Bay, California: distribution, reproduction cycle, and age and growth. Pismo clam populations were restricted to sand beaches between the Salinas River and Santa Cruz with the highest densities intertidal, and their presence and absence correlated with beach slope and grain size.

MP 9-75..A018 065
DAHL, B.E., et al., "Construction and Stabilization of Coastal Foredunes with Vegetation: Padre Island, Texas," Sept. 1975.

Keywords: *Fences, sand; Padre Island, TX; Vegetation*

Experiments to establish specifications and methodologies for beach grasses in constructing and stabilizing foredunes as storm surge barriers along the gulf coast are presented. Conclusions are based on 2.5 linear miles of experimental plots with beach plantings and fence-built dunes on Padre Island, Texas. Results of greenhouse experiments on the effects of nutrients and salinity on beach-grass growth are also presented.

MP 10-75..A018 891
DAVIS, R.A., Jr., FINGLETON, W.G., and PRITCHETT, P.C., "Beach Profile Changes: East Coast of Lake Michigan, 1970-72," Oct. 1975.

Keywords: *Bluffs, Lake Michigan; Longshore bars; Profiles*

Movement of bluffs (edge of terraces) marking landward boundary or beaches is reported on a 250-mile segment of the east coast of Lake Michigan. Variables affecting rate of movement include lake level, bluff or terrace composition, shoreline orientation and straightness, wave climate, manmade structures, and longshore bars.

MP 11-75..A019 833
NORDSTROM, C.E., and INMAN, D.L., "Sand Level Changes on Torrey Pines Beach, California," Dec. 1975.

Keywords: *Profiles; Torrey Pines Beach, CA*

The report presents profile and sediment data collected during a 23-month survey of beach and offshore sand level changes along a straight beach at Torrey Pines, California. Data showed seasonal changes in beach configuration related to changes in the wave regime.

MP 12-75...AD21 577
AHRENS, J., "Wave Runup on a 1 on 10 Slope," Dec. 1975.

Keywords: *Gages, wave; Runup wave*

This study compares the runup caused by monochromatic and simple irregular waves on a smooth 1-on 10-slope. Wave runup was measured by use of a modified step-resistance wave gage which gave reliable measurements of extreme values and also provided a complete time history of the runup-air interface on the slope.

VII. BEB BIBLIOGRAPHY

The Technical Memorandums issued before 1963 by the Beach Erosion Board (BEB) are listed without annotations in this section. The BEB reports are annotated in CERC's Miscellaneous Paper No. 1-68, titled Annotated Bibliography of BEB and CERC Publications. CERC no longer has a supply of these BEB reports, but they can be purchased through the National Technical Information Service.

11. BEB TECHNICAL MEMORANDUMS

TM	TITLE	AUTHOR(S)	DATE	AD NUMBER
1	A Model Study of the Effect of Submerged Breakwaters on Wave Action	Hall, W.C.	1940	697 119
2	Abrasion of Beach Sand	Mason, M.A.	Feb. 1942	697 120
3	Shore Processes and Beach Characteristics	Krumbein, W.C.	May 1944	697 121
4	Surface Features of Coral Reefs	Dryden, L.	May 1944	697 122
5	A Wave Method for Determining Depths Over Bottom Discontinuities	Mason, M.A.	May 1944	697 123
6	An Ocean Wave Measuring Instrument	Caldwell, J.M.	Oct. 1948	697 124
7	Shore Currents and Sand Movement on a Model Beach	Krumbein, W.C.	Sept. 1944	697 129
8	Depths of Offshore Bars	Keulegan, G.H.	July 1945	697 130
9	Proof Test of Water Transparency Method of Depth Determination	Hall, J.V., Jr.	July 1948	697 131
10	Experimental Steel Sheet Pile Groins, Palm Beach, Florida	BEB Ross, C.W.	1948	697 132
11	Reflection of Solitary Waves	Caldwell, J.M.	Nov. 1949	699 389
12	Durability of Steel Sheet Piling in Shore Structures	Rayner, A.C.	Feb. 1952	699 390
13	Longshore Current Observations in Southern California	Shepard, F.P.	Jan. 1950	699 391
14	Report on Beach Study in the Vicinity of Mugu Lagoon, California	Inman, D.L.	Mar. 1950	699 392
15	Longshore Bars and Longshore Troughs	Shepard, F.P.	Jan. 1950	699 393
16	Accretion of Beach Sand Behind a Detached Breakwater	Handin, J.W.	May 1950	699 394
17	Test of Nourishment of the Shore by Offshore Deposition of Sand	Hall, J.V., Jr.	June 1950	699 395
18	The Rayleigh Disk as a Wave Direction Indicator	Hall, J.V., Jr.	July 1950	223 917
19	Submarine Topography and Sedimentation in the Vicinity of Mugu Submarine Canyon, California	Inman, D.L.	July 1950	699 396
20	Beach Cycles in Southern California	Shepard, F.P.	July 1950	699 397
21	The Interpretation of Crossed Orthogonals in Wave Refraction Phenomena	Pierson, W.J., Jr.	Nov. 1950	699 398
22	The Source, Transportation, and Deposition of Beach Sediment in Southern California	Handin, J.W.	Mar. 1951	699 399
23	The Use and Accuracy of the Emery Settling Tube for Sand Analysis	Poole, D.M. Butcher, W.S. Fisher, R.L.	May 1951	699 400
24	The Accuracy of Present Wave Forecasting Methods with Reference to Problems in Beach Erosion on the New Jersey and Long Island Coasts	Pierson, W.J., Jr.	Apr. 1951	699 401
25	The Slope of Lake Surfaces Under Variable Wind Stresses	Hourwitz, B.	Nov. 1951	699 402
26	Sand Movement on the Shallow Inter-Canyon Shelf at La Jolla, California	Shepard, F.P. Inman, D.L.	Nov. 1951	ATI 169 582
27	Wind Set-up and Waves in Shallow Water	Saville, T., Jr.	June 1952	699 403
28	Source of Beach Sand at Santa Barbara, California, as Indicated by Mineral Grain Studies	Trask, P.D.	Oct. 1952	699 404
29	Artificially Nourished and Constructed Beaches	Hall, J.V., Jr.	Dec. 1952	699 480
30	Annotated Bibliography on Tsunamis	Mueller, M.F.	Feb. 1953	699 405

11. BEB TECHNICAL MEMORANDUMS--Continued

TM	TITLE	AUTHOR(S)	DATE	AD NUMBER
31	Laboratory Study of Wave Energy Losses by Bottom Friction and Percolation	Savage, R.P.	Feb. 1953	11 564
32	Accuracy of Hydrographic Surveying in and Near the Surf Zone	Saville, T., Jr. Caldwell, J.M.	Mar. 1953	20 095
33	Laboratory Investigation of the Vertical Rise of Solitary Waves on Impermeable Slopes	Hall, J.V., Jr. Watts, G.M.	Mar. 1953	11 565
34	Development and Field Tests of a Sampler for Suspended Sediment in Wave Action	Watts, G.M.	Mar. 1953	20 100
35	Analysis of Moving Fetches for Wave Forecasting	Kaplan, K.	Mar. 1953	24 440
36	Wave and Lake Level Statistics for Lake Michigan	Saville, T., Jr.	Mar. 1953	20 097
37	Wave and Lake Level Statistics for Lake Erie	Saville, T., Jr.	Mar. 1953	20 098
38	Wave and Lake Level Statistics for Lake Ontario	Saville, T., Jr.	Mar. 1953	20 099
39	Areal and Seasonal Variations in Beach and Nearshore Sediments at La Jolla, California	Inman, D.L.	Mar. 1953	20 041
40	The Mechanics of Deep Water, Shallow Water, and Breaking Waves	Morison, J.R.	Mar. 1953	20 096
41	Laboratory Study of Equilibrium Profiles of Beaches	Rector, R.L.	Aug. 1954	46 515
42	A Study of Sand Movement at South Lake Worth Inlet, Florida	Watts, G.M.	Oct. 1953	24 439
43	On Ocean Wave Spectra and a New Method of Forecasting Wind-Generated Sea	Neumann, G.	Dec. 1953	26 444
44	Coast Erosion and the Development of Beach Profiles	Bruun, P.	June 1954	40 418
45	Modification of Wave Height Due to Bottom Friction, Percolation, and Refraction	Bretschneider, C.L. Reid, R.O.	Oct. 1954	48 974
46	Field Investigations of Wave Energy Loss in Shallow Water Ocean Waves	Bretschneider, C.L.	Sept. 1954	47 144
47	Stability of Oscillatory Laminar Flow Along a Wall	Li, Huon	July 1954	49 231
48	Sand Movement by Waves	Scott, T.	Aug. 1954	49 232
49	Bore Hole Studies of the Naturally Impounded Fill at Santa Barbara, California	Trask, P.D.	Aug. 1954	49 233
50	Statistical Significance of Beach Sampling Methods	Krumbein, W.C.	Aug. 1954	46 516
51	Generation of Wind Waves Over a Shallow Bottom	Bretschneider, C.L.	Oct. 1954	46 517
52	Laboratory Study of Effect of Tidal Action on Wave-Formed Beach Profiles	Watts, G.M. Dearduff, R.F.	Dec. 1954	55 553
53	Laboratory Study of the Effect of Varying Wave Periods on Beach Profiles	Watts, G.M.	Sept. 1954	46 518
54	Laboratory and Field Tests of Sounding Leads	Watts, G.M.	Nov. 1954	77 006
55	North Atlantic Coast Wave Statistics Hindcast by Bretschneider--Revised Sverdrup-Munk Method	Saville, T., Jr.	Nov. 1954	60 787
56	An Electronic Wave Spectrum Analyzer and Its Use in Engineering Problems	Pierson, W.J., Jr.	Oct. 1954	48 975
57	North Atlantic Coast Wave Statistics Hindcast by Wave Spectrum Method	Neumann, G. James, R.W.	Feb. 1955	60 788
58	A Magnetic Tape Wave Recorder and Energy Spectrum Analyzer for the Analysis of Ocean Wave Records	Chang, S.S.	July 1955	109 838
59	Laboratory Study of Shock Pressures of Breaking Waves	Ross, C.W.	Feb. 1955	60 789
60	Generalized Laboratory Study of Tsunami Run-up	Kaplan, K.	Jan. 1955	60 790
61	Laboratory Study of Wind Tides in Shallow Water	Sibul, O.J.	Aug. 1955	77 907
62	Restudy of Test-Shore Nourishment by Offshore Deposition of Sand, Long Branch, New Jersey	Harris, R.L.	Nov. 1954	55 554
63	A Study of Sediment Sorting by Waves Shoaling on a Plane Beach	Ippen, A.T.	Sept. 1955	77 908
64	Laboratory Data on Wave Runup and Overtopping on Shore Structures	Saville, T., Jr.	Oct. 1955	77 909

11. BEB TECHNICAL MEMORANDUMS--Continued

TM	TITLE	AUTHOR(S)	DATE	AD NUMBER
65	Sand Variation at Point Reyes Beach, California	Trask, P.D. Johnson, C.A.	Oct. 1955	115 101
66	Factors Affecting the Economic Life of Timber in Coastal Structures	Jachowski, R.A.	Dec. 1955	115 102
67	A Model Study of the Run-up of Wind-Generated Waves on Levees with Slopes of 1:3 and 1:6	Sibul, O.J. Tickner, E.G.	Dec. 1955	76 520
68	Wave Action and Sand Movement Near Anaheim Bay, California	Caldwell, J.M.	Feb. 1956	115 104
69	Wave Forces on Piles: A Diffraction Theory	MacCamy, R.C. Fuchs, R.A.	Dec. 1954	699 606
70	The Effect of Fetch Width on Wave Generation	Saville, T., Jr.	Dec. 1954	55 552
71	Re-Analysis of Existing Wave Force Data on Model Piles	Crooke, R.C.	Apr. 1955	65 350
72	Laboratory Study of the Generation of Wind Waves in Shallow Water	Sibul, O.J.	Mar. 1955	60 822
73	Graphical Approach to the Forecasting of Waves in Moving Fetches	Wilson, B.W.	Apr. 1955	65 351
74	Water Surface Roughness and Wind Shear Stress in a Laboratory Wave Channel	Sibul, O.J.	May 1955	77 512
75	Mechanics of Bottom Sediment Movement Due to Wave Action	Manohar, M.	June 1955	77 513
76	Movement of Sand Around Southern California Promontories	Trask, P.D.	June 1955	77 514
77	Behavior of Beach Fill at Ocean City, New Jersey	Watts, G.M.	Feb. 1956	115 380
78	Hurricanes Affecting the Coast of Texas from Galveston to Rio Grande	Price, W.A.	Mar. 1956	115 551
79	Orbital Velocity Associated with Wave Action Near the Breaker Zone	Inman, D.L.	Mar. 1956	98 208
80	Model Study of Overtopping of Wind-Generated Waves on Levees with Slopes of 1:3 and 1:6	Sibul, O.J. Tickner, E.G.	Apr. 1956	88 706
81	Laboratory Study of Short-Crested Wind Waves	Ralls, G.C., Jr. Wiegel, R.L.	June 1956	71 974
82	Changes in Sand Level on the Beach and Shelf at La Jolla, California	Inman, D.L. Rusnak, G.A.	July 1956	114 828
83	Approximate Response of Water Level on a Sloping Shelf to a Wind Fetch Which Moves Directly Towards Shore	Reid, R.O.	June 1956	114 829
84	Wave Forecasting Relationships for the Gulf of Mexico	Bretschneider, C.L.	Dec. 1956	132 762
85	Wave Statistics for the Gulf of Mexico off Brownsville, Texas	Bretschneider, C.L. Gaul, R.D.	Sept. 1956	115 151
86	Wave Statistics for the Gulf of Mexico off Caplen, Texas	Bretschneider, C.L. Gaul, R.D.	Sept. 1956	115 152
87	Wave Statistics for the Gulf of Mexico off Burrwood, Louisiana	Bretschneider, C.L. Gaul, R.D.	Oct. 1956	115 153
88	Wave Statistics for the Gulf of Mexico off Apalachicola, Florida	Bretschneider, C.L. Gaul, R.D.	Oct. 1956	115 154
89	Wave Statistics for the Gulf of Mexico off Tampa Bay, Florida	Bretschneider, C.L. Gaul, R.D.	Oct. 1956	132 763
90	Relative Efficiency of Beach Sampling Methods	Krumbein, W.C. Slack, H.A.	Sept. 1956	115 155
91	Changes in Configuration of Point Reyes Beach, California 1955-1956	Trask, P.D.	Nov. 1956	111 323
92	Sand Bypassing at Port Hueneme, California	Savage, R.P.	Mar. 1957	132 765
93	Modification of the Quadratic Bottom-Stress Law for Turbulent Channel Flow in the Presence of Surface Wind-Stress	Reid, R.O.	Feb. 1957	132 766
94	Preliminary Report: Laboratory Study of the Effect of Uncontrolled Inlet on the Adjacent Beaches	Saville, T., Jr. Caldwell, J.M. Simmons, H.N.	Mar 1957	158 636
95	Effect of Bottom Roughness on Wind Tide in Shallow Water	Tickner, E.G.	May 1957	158 635
96	Factors Affecting the Durability of Concrete in Coastal Structures	Mather, B.	June 1957	158 634
97	Turbulent Flow Near an Oscillating Wall	Kalkanis, G.	July 1957	158 751
98	Hurricane Wave Statistics for the Gulf of Mexico	Wilson, B.W.	June 1957	158 633

II. BEB TECHNICAL MEMORANDUMS--Continued

TM	TITLE	AUTHOR(S)	DATE	AD NUMBER
99	Model Tests on a [illegible] Type of Floating Breakwater	[illegible]	Sept. 1957	150 [illegible]
100	[illegible] Ripples in [illegible] Sands	Inman, D.L.	Oct. 1957	150 562
101	Dune Formation and Stabilization by Vegetation and Plantings	[illegible]	Oct. 1957	150 563
102	A Method for Specification of Sand for Beach Fills	Krumbein, W.C.	Oct. 1957	153 596
103	Model Study of Wave Refraction	Wiegel, R.L. Arnold, A.L.	Dec. 1957	158 587
104	The Mechanics of the Motion of Discrete Spherical Bottom Sediment Particles Due to Shoaling Waves	Eagleson, P.S. Dean, R.G. Peralta, L.A.	Feb. 1958	150 595
105	Movement of Bottom Sediment in Coastal Waters by Currents and Waves; Measurements with the Aid of Radioactive Tracers in the Netherlands	Arlman, J.J. Santema, P. Svasek, J.N.	Mar. 1958	203 836
106	Laboratory Study of Breaking Wave Forces on Piles	Hall, M.A.	Aug. 1958	203 837
107	Analysis of Beach Fill and Borrow Area at Harrison County, Mississippi	Watts, G.M.	Aug. 1958	[illegible] 608
108	Surf Statistics for the Coasts of the United States	[illegible]	Nov. 1958	[illegible] 609
109	Laboratory Data on Wave Runup on Roughened and Impermeable Slopes	Savage, R.P.	Mar. 1959	[illegible]
110	Beaches Near San Francisco, California 1956-1957	Trask, P.D.	Apr. 1959	[illegible]
111	Large-Scale Tests of Wave Forces on Piling (Preliminary Report)	[illegible]	May 1959	[illegible]
112	The Propagation of Tidal Waves into Channels of Gradually Varying [illegible] Effects of a Frictional Resistance [illegible]	[illegible]	May 1959	227 461
113	Analysis of Beach Fill at Virginia Beach, Virginia	Watts, G.M.	June 1959	227 462
114	Laboratory Study of the Effect of [illegible] on the Rate of Littoral Transport; Equipment Development and Initial Tests	Savage, R.P.	June 1959	227 463
115	Suspended Sediment Sampling in Laboratory Wave Action	Fairchild, J.C.	June 1959	227 464
116	On the Theory of the Highest Waves	Chappelear, J.E.	July 1959	227 465
117	The Damping of Oscillatory Waves by Laminar Boundary Layers	Eagleson, P.S.	Aug. 1959	227 466
118	Wave Variability and Wave Spectra for Wind-Generated Gravity Waves	Bretschneider, C.L.	Aug. 1959	227 467
119	Sand Movement by Wind Action (On the Characteristics of Sand Traces)	Horikawa, K. Shen, H.W.	Aug. 1960	246 157
120	The Prediction of Hurricane Storm-Tides in New York Bay	Wilson, B.W.	Aug. 1960	246 [illegible]
120A	Discussion of Technical Memorandum No. 120 (The Prediction of Hurricane Storm-Tides in New York Bay)	Harris, D.L. Wilson, B.W.	Apr. 1961	258 308
121	Development and Tests of a Radioactive Sediment Density Probe	Caldwell, J.M.	Sept. 1960	246 158
122	Effects of Reefs and Bottom Slopes on Wind Set-up in Shallow Water	Tickner, E.G.	Nov. 1960	252 [illegible]
123	Transient Wind Tides in Shallow Water	Tickner, E.G.	Jan. 1961	252 [illegible]
124	Experimental Study on the Solitary Wave Reflection Along a Straight Sloped Wall at Oblique Angle of Incidence	[illegible]	Mar. 1961	258 462
125	On the Description of Short-Crested Waves	Chappelear, J.E.	Mar. 1961	258 463
126	Equilibrium Characteristics of Sand Beaches in the Offshore Zone	Eagleson, P.S. Glenne, B. Dracup, J.A.	[illegible] 1961	266 263
127	Behavior of Beach Fill and Borrow Area at Prospect Beach, West Haven, Connecticut	Vesper, W.H.	Aug. 1961	266 262
128	Geomorphology of the South Shore of Long Island, New York	Taney, N.E.	Sept. 1961	266 266
129	Littoral Materials of the South Shore of Long Island, New York	Taney, N.E.	Nov. 1961	271 022
130	The Analysis of Observational Data from Natural Beaches	Krumbein, W.C.	Nov. 1961	271 024
131	Littoral Studies Near San Francisco Using Tracer Techniques	[illegible]	Nov. 1962	297 385
132	Waves in Inland Reservoirs (Summary Report on Civil Works Investigation, Projects CW-164 and CW-165)	[illegible]	Nov. 1962	297 386
133	Higher Approximation to Nonlinear Water Waves and the Limiting Heights of Cnoidal, Solitary, and Stokes' Waves	Laitone, E.V.	Feb. 1963	[illegible] 426
134	Beach Profile as Affected by Vertical Walls	Kadib, A.L.	June 1963	[illegible] 424
135	The Relationship Between Watershed Geology and Beach Radioactivity	[illegible]	Aug. 1963	[illegible] 425

The Miscellaneous Papers issued before 1963 by the Beach Erosion Board (BEB) are listed without annotations in this section. The BEB reports are annotated in CERC's Miscellaneous Paper No. 1-68, titled Annotated Bibliography of BEB and CERC Publications. CERC no longer has a supply of these BEB reports, but they can be purchased through the National Technical Information Service.

12. BEB MISCELLANEOUS PAPERS

MP	TITLE	AUTHOR(S)	DATE	AD NUMBER
			1959	
1-59	Shore Erosion by Storm Waves	Caldwell, J.M.	Apr.	699 407
2-59	Behavior of Sand-Asphalt Groins at Ocean City, Maryland	Jachowski, R.A.	May	AD37 880
3-59	Hurricane Surge Predictions for Chesapeake Bay	Bretschneider, C.L.	Sept.	699 408
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AUTHOR(S): [illegible]

KEYWORDS: ARMOR UNITS; HYDRAULIC MODELS; [illegible]

[illegible] ENGINEERING AND ECOLOGICAL EVALUATION OF ARTIFICIAL ISLAND DESIGN, RINCON ISLAND, PUNTA GORDA, CALIFORNIA (MAR 1974)
AUTHOR(S): [illegible]
KEYWORDS: ARMOR UNITS;ARTIFICIAL ISLANDS;RINCON ISLAND,CA;TETRAPODS

TM 55 STABILITY OF GOBI BLOCK REVETMENT TO WAVE ATTACK (OCT [illegible])
AUTHOR(S): AHRENS,J.P.; MCCARTNEY,B.L.
KEYWORDS: ARMOR UNITS;GOBI BLOCKS;HYDRAULIC MODELS;REVETMENTS

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KEYWORDS* ARTIFICIAL SEAWEED [illegible]

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AUTHOR(S)* [illegible]
KEYWORDS* [illegible] GEOMORPHOLOGY

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[illegible] DATA AND WAVE [illegible] FOR [illegible] BEACH EVALUATION PROGRAM, [illegible]
AUTHOR(S)* [illegible]
KEYWORDS* ATLANTIC CITY, NJ; BEACH EVALUATION PROGRAM [illegible]

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KEYWORDS* ATLANTIC [illegible] PROGRAM [illegible]

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AUTHOR(S)* [illegible]
KEYWORDS* [illegible] BEACH EVALUATION PROGRAM (BEP), BEACH [illegible] EROSION; PROFILES

[illegible] BEHAVIOR OF BEACH FILL AT ATLANTIC CITY, NEW JERSEY (JUN 1975)
AUTHOR(S)* CZERNIAK, M.T.; DEWALL, A.E.; EVERTS, C.H.
KEYWORDS* ATLANTIC CITY, NJ; BEACH NOURISHMENT

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KEYWORDS+ ATLANTIC [illegible]
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KEYWORDS+ ATLANTIC COAST [illegible]
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AUTHOR(S)+ [illegible] WILLIAMS,S.J.
KEYWORDS+ ATLANTIC COAST;GEOMORPHOLOGY;INNER CONTINENTAL [illegible] DATA
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AUTHOR(S)+ EVERTS,C.H.
KEYWORDS+ ATLANTIC COAST;BEACH EVALUATION PROGRAM (BEP);GULF COAST;INNER CONTINENTAL SHELF;PROFILES
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AUTHOR(S)+ THOMPSON,E.F.
KEYWORDS+ ATLANTIC COAST;[illegible];WAVE [illegible] PACIFIC COAST;WAVE CLIMATOLOGY

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[illegible] A METHOD FOR ESTIMATING WIND WAVE GROWTH AND DECAY IN SHALLOW WATER WITH HIGH VALUES OF BOTTOM FRICTION (OCT 1977)
AUTHOR(S)+ CAMFIELD,F.E.
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MR 76-? WAVE ATTENUATION BY ARTIFICIAL SEAWEED (JUN 1976)
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TP 76-17 FLOATING BREAKWATER FIELD ASSESSMENT PROGRAM, FRIDAY HARBOR, WASHINGTON (OCT 1976)
AUTHOR(S)+ ADEE,B.H.; CHRISTENSEN,D.R.;

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R 81-[illegible] HUMAN INFLUENCE ON THE SEDIMENT BUDGET OF A BARRIER ISLAND [illegible]
AUTHOR(S)+ EVERTS,C.H.
KEYWORDS+ BARRIER ISLANDS [illegible]

R 81-8 RECENT GEOLOGIC HISTORY OF A BARRIER ISLAND (OCT 1981)
AUTHOR(S)+ HOBSON, R.D.; MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS+ BARRIER ISLANDS,TOPSAIL ISLAND,NC

R 81-6 BARRIER ISLAND SEDIMENTATION STUDIES PROGRAM (OCT 1981)
AUTHOR(S)+ EVERTS,C.H., FINKELSTEIN,K.; HANDS,E.B.; HOBSON,R.D.; HOLMES,L.J.; MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS+ BARRIER ISLANDS;SEA LEVEL;SEDIMENT TRANSPORT

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MR 77-9 THE HISTORY OF THE BEACH EROSION BOARD, U.S. ARMY, CORPS OF ENGINEERS, 1930-63 (AUG 1977)
AUTHOR(S)* QUINN,M.L.
KEYWORDS* BEACH EROSION BOARD;HISTORIES

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MP 3-69 PIPE PROFILE DATA AND WAVE OBSERVATIONS FROM THE CERC BEACH EVALUATION PROGRAM, JANUARY-MARCH 1968 (SEP 1969)
AUTHOR(S)* GALVIN,C.J.,JR.; URBAN,H.D.
KEYWORDS* ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LONG ISLAND,NY;LUDLAM ISLAND,NJ; PROFILES;SHORE PROCESSES;WESTHAMPTON BEACH,NY

MR 77-3 SIZE ANALYSIS OF SAND SAMPLES FROM SOUTHERN NEW JERSEY BEACHES (MAR 1977)
AUTHOR(S)* GALVIN,C.J.,JR.; RAMSEY,M.D.
KEYWORDS* ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM CERC;BRIGANTINE,NJ;ISLAND BEACH,NJ; LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ

MR 79-5 BEACH CHANGES AT WESTHAMPTON BEACH, NEW YORK, 1962-73 (AUG 1979)
AUTHOR(S)* DEWALL,A.E.
KEYWORDS* BEACH EVALUATION PROGRAM-CERC;EROSION; GROINS;PROFILES;WESTHAMPTON BEACH,NY

MR 80-3 BEACH AND INLET CHANGES AT LUDLAM BEACH, NEW JERSEY (MAY 1980)
AUTHOR(S)* CZERNIAK,M.T.; DEWALL,A.E.; EVERTS,C.H.
KEYWORDS* BEACH EVALUATION PROGRAM-CERC;GROINS; LUDLAM BEACH,NJ;PROFILES;TIDAL INLETS

MR 81-3 BEACH CHANGES AT ATLANTIC CITY, NEW JERSEY (1962-73) (MAR 1981)
AUTHOR(S)* MCCANN,D.P.
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R 78-4 BEACH AND NEARSHORE PROCESSES IN SOUTHEASTERN FLORIDA (APR 1978)
AUTHOR(S): DEWALL,A.E. ; RICHTER,J.J.
KEYWORDS: BEACH EVALUATION PROGRAM CERC;[illegible] [illegible];NOURISHMENT;[illegible] [illegible] PROFILES;[illegible] [illegible]

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AUTHOR(S): DEWALL,A.E. ; [illegible] ; [illegible]
KEYWORDS: ATLANTIC [illegible];BEACH EVALUATION PROGRAM [illegible];[illegible] [illegible] BEACH;[illegible] BEACH ISLAND;[illegible] [illegible] [illegible];[illegible] BEACH;[illegible]

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AUTHOR(S): DEWALL,A.E.
KEYWORDS: BEACH EVALUATION PROGRAM CERC;[illegible] [illegible];[illegible] HOLLYWOOD,[illegible] [illegible] [illegible] PROFILES;WAVE CLIMATOLOGY

TP [illegible] GEOMETRY OF PROFILES ACROSS INNER CONTINENTAL SHELVES OF THE ATLANTIC AND GULF COASTS OF THE UNITED STATES (APR 1 [illegible])
A[illegible] EVERTS,[illegible]
KEYWORDS: ATLANTIC [illegible] [illegible] [illegible] [illegible] [illegible]

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MR 80 1(I) [illegible] EVALUATION OF A BEACH NOURISHMENT PROJECT AT HALLANDALE (BROWARD COUNTY), FLORIDA ([illegible] 1980)
AUTHOR(S)+ COURTENAY,W.R.,JR.; [illegible]
KEYWORDS+ BEACH NOURISHMENT;BROWARD COUNTY,FL; ECOLOGY;FISH;HALLANDALE,FL

MR 80 1(II) ECOLOGICAL EVALUATION OF A BEACH NOURISHMENT PROJECT AT HALLANDALE (BROWARD COUNTY), FLORIDA (MAR 1980)
AUTHOR(S)+ BOWEN,P.R.; COURTENAY,W.R.,JR.; HESS,D.R.; MARSH,G.A.; [illegible]
KEYWORDS+ BEACH NOURISHMENT;[illegible] BEACH,FL;HALLANDALE,FL

MR 81 3 BEACH CHANGES AT ATLANTIC CITY, NEW JERSEY (1962-73) (MAR 1981)
AUTHOR(S)+ MCCANN,D.P.
KEYWORDS+ ABSECON ISLAND;ATLANTIC CITY,NJ; BEACH EVALUATION PROGRAM (BEP);BEACH NOURISHMENT;EROSION;PROFILES

MR 81 [illegible] ANALYSIS OF COASTAL SEDIMENT TRANSPORT PROCESSES FROM WRIGHTSVILLE BEACH TO FORT FISHER, NORTH CAROLINA ([illegible] 1981)
AUTHOR(S)+ [illegible]OU,I.B.; CRANE,J.D.; POWELL,S.M.; WINTON,T.C.
KEYWORDS+ BEACH NOURISHMENT;BUDGET,SEDIMENT; CAROLINA BEACH,NC;FORT FISHER,NC; WRIGHTSVILLE,NC

MR 82 [illegible] LONG TERM EFFECTS OF BEACH NOURISHMENT ON THE BENTHIC FAUNA OF PANAMA CITY,FLORIDA (JAN 1982)
AUTHOR(S)+ CULTER,J.K.; MAHADEVAN,S.
KEYWORDS+ BEACH NOURISHMENT;FAUNA;PANAMA CITY BEACH,FL

MR 82 9 GEOLOGICAL CHARACTER AND MINERAL RESOURCES OF SOUTH CENTRAL LAKE ERIE (OCT 1982)
AUTHOR(S)+ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS+ BEACH NOURISHMENT;LAKE ERIE;PRESQUE ISLE,PA

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KEYWORDS: ATLANTIC CITY [illegible];BEACH NOURISHMENT

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AUTHOR(S): [illegible]

KEYWORDS: BEACH NOURISHMENT

R 78-6 NEARSHORE DISPOSAL: ONSHORE SEDIMENT TRANSPORT (FEB 1978)

AUTHOR(S): MUSIALOWSKI,F.R.; SCHWARTZ,R.K.

KEYWORDS: BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;PROFILES;SEDIMENT TRANSPORT

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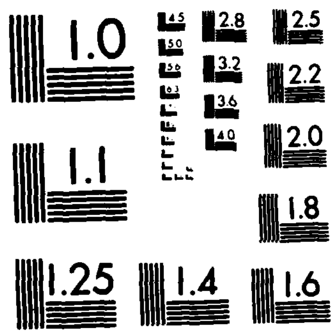

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AUTHOR(S)→ BOOTHROYD,J.C ; HUBBARD,D.K
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R 77-5 <WAVE ENTRAINMENT OF SEDIMENT FROM RIPPLED BEDS (MAY 1977)
AUTHOR(S)→ GLOVER,J.R.; KENNEDY,J.F.; LOCHER,F.A.; NAKATO,T.
KEYWORDS→ BED FORMS;SEDIMENT TRANSPORT

R 79-13 <SAND BED FRICTION FACTORS FOR OSCILLATORY FLOWS (NOV 1979)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ BED FORMS;FRICTION FACTOR;SEDIMENT TRANSPORT;SHEAR STRESSES

R 81-11 <MEASUREMENTS OF OSCILLATORY DRAG ON SAND RIPPLES (JAN 1982)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ BED FORMS;DRAG FORCES;SAND RIPPLES;SEDIMENT TRANSPORT

TM 28 <BED FORMS GENERATED IN THE LABORATORY UNDER AN OSCILLATORY FLOW: ANALYTICAL AND EXPERIMENTAL STUDY (JUN 1969)
AUTHOR(S)→ ALTINBILEK,H.D.; CARSTENS,M.R.; NEILSON,F.M.
KEYWORDS→ BED FORMS;DRAG COEFFICIENTS;DUNES;RIPPLES;SEDIMENT TRANSPORT

TP 78-5 <SAND RIPPLE GROWTH IN AN OSCILLATORY-FLOW WATER TUNNEL (AUG 1978)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ BED FORMS;PROFILES;QUARTZ SAND;RIPPLES;SAND RIPPLES;SEDIMENT TRANSPORT

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R 1-74 <PARTICLE OVERPASSING ON FLAT GRANULAR BOUNDARIES (NOV 1974)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ BEDLOAD;SEDIMENT TRANSPORT

R 82-6 <HINDERED BEDLOAD SETTLING AS A MODEL OF SAND BED PLANTATION BY WATER WAVES (NOV 1982)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ BEDLOAD;SEDIMENT TRANSPORT

R 83-1 <OSCILLATORY BEDLOAD TRANSPORT: DATA REVIEW AND SIMPLE FORMULATION (MAR 1983)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ BEDLOAD;SEDIMENT TRANSPORT

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MP 5-75 <A SELECTED BIBLIOGRAPHY OF THE NEARSHORE ENVIRONMENT: FLORIDA WEST COAST (APR 1975)
AUTHOR(S)→ SALOMAN,C.H.
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MR 77-2 <MARINE PIPELINES: AN ANNOTATED BIBLIOGRAPHY (MAR 1977)
AUTHOR(S)→ BOWIE,G.L.; WIEGEL,R.L.
KEYWORDS→ BIBLIOGRAPHIES;PIPELINES

MR 78-2 <AN ANNOTATED BIBLIOGRAPHY OF CERC COASTAL ECOLOGY RESEARCH (MAY 1978)
AUTHOR(S)→ HURME,A.K.; KNUTSON,P.L.; PULLEN,E.J.; YANCEY,R.M.
KEYWORDS→ BIBLIOGRAPHIES;ECOLOGY

MR 79-1 <AN ANNOTATED BIBLIOGRAPHY ON DETACHED BREAKWATERS AND ARTIFICAL HEADLANDS (FEB 1979)
AUTHOR(S)→ LESNIK,J.R.
KEYWORDS→ BIBLIOGRAPHIES;BREAKWATERS

MR 79-6 <AN ANNOTATED BIBLIOGRAPHY OF PATENTS RELATED TO COASTAL ENGINEERING (NOV 1979)
AUTHOR(S)→ DICKEY,M.D.; LYLES,A.M.; RAY,R.E.
KEYWORDS→ BIBLIOGRAPHIES;PATENTS

MR 80-5 <AN ANNOTATED BIBLIOGRAPHY OF CERC COASTAL ECOLOGY RESEARCH (JUN 1980)
AUTHOR(S)→ HURME,A.K.; KNUTSON,P.L.; PULLEN,E.J.; YANCEY,R.M.
KEYWORDS→ BIBLIOGRAPHIES;ECOLOGY

MR 80-7 <AN ANNOTATED BIBLIOGRAPHY OF SEAGRASSES WITH EMPHASIS ON PLANTING AND PROPAGATION TECHNIQUES (SEP 1980)
AUTHOR(S)→ KNIGHT,D.B.; KNUTSON,P.L.; PULLEN,E.J.
KEYWORDS→ BIBLIOGRAPHIES;VEGETATION

MR 82-7 <SURF ZONE CURRENTS (SEP 1982)
AUTHOR(S)→ BASCO,D.R.; COLEMAN,R.A.
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MR 83-2 <AN ANNOTATED BIBLIOGRAPHY ON THE BIOLOGICAL EFFECTS OF CONSTRUCTING CHANNELS, JETTIES AND OTHER COASTAL STRUCTURES (JAN 1983)
AUTHOR(S)→ FORD,J.C.; HURME,A.K.; PULLEN,E.J.
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MR 83-7 <ANNOTATED BIBLIOGRPHY ON WAVE-CURRENT INTERACTION (MAR 1983)
AUTHOR(S)→ GALVIN,C.J.,JR.; JONSSON,I.G.; PEREGRINE,D.H.
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MR 76-1 <EFFECTS OF SUSPENDED SOLIDS ON SELECTED

HEIGHT TRANSMITTED BY OVERTOPPING (MAY 1976)
AUTHOR(S)> SEELIG,W.N.
KEYWORDS> BREAKWATERS,OVERTOPPING,WAVE, TRANSMISSION,WAVE

CETA 79-4 <DETERMINATION OF MOORING LOAD AND TRANSMITTED WAVE HEIGHT FOR A FLOATING TIRE BREAKWATER (SEP 1979)
AUTHOR(S)> ECKERT,J.W., GILES,M.L.
KEYWORDS> BREAKWATERS,FLOATING BREAKWATERS, MOORING FORCES;TRANSMISSION,WAVE;WAVE CLIMATOLOGY

CETA 79-6 <ESTIMATION OF WAVE TRANSMISSION COEFFICIENTS FOR PERMEABLE BREAKWATERS (OCT 1979)
AUTHOR(S)> SEELIG,W.N.
KEYWORDS> BREAKWATERS;TRANSMISSION,WAVE

CETA 80-7 <ESTIMATION OF WAVE TRANSMISSION COEFFICIENTS FOR OVERTOPPING OF IMPERMEABLE BREAKWATERS (DEC 1980)
AUTHOR(S)> SEELIG,W.N.
KEYWORDS> BREAKWATERS;OVERTOPPING,WAVE, RUNUP,WAVE;TRANSMISSION,WAVE

CETA 80-8 <ESTIMATION OF FLOW THROUGH OFFSHORE BREAKWATER GAPS GENERATED BY WAVE OVERTOPPING (DEC 1980)
AUTHOR(S)> SEELIG,W.N.; WALTON,T.L.,JR.
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CETA 81-7 <SOME OBSERVATIONS ON THE ECONOMICS OF OVERDESIGNING RUBBLE-MOUND STRUCTURES WITH CONCRETE ARMOR (JUN 1981)
AUTHOR(S)> WEGGEL,J.R.
KEYWORDS> ARMOR UNITS;BREAKWATERS;COST ESTIMATES

MP 3-75 <FEATURES OF VARIOUS OFFSHORE STRUCTURES (APR 1975)
AUTHOR(S)> [illegible]; [illegible]; PERRINO,J.; PLODOWSKI,T.
KEYWORDS> BIBLIOGRAPHIES;BREAKWATERS;COASTAL STRUCTURES

MP 4-75 <CONCEPT ANALYSIS: OFFSHORE BREAKWATER-OIL STORAGE SYSTEM (APR 1975)
AUTHOR(S)> PERRINO,J.; PLODOWSKI,T.
KEYWORDS> BREAKWATERS;PETROLEUM STORAGE SYSTEM, PORT STRUCTURES

MR 76-5 <REFLECTION AND TRANSMISSION CHARACTERISTICS OF POROUS RUBBLE-MOUND BREAKWATERS (MAR 1976)
AUTHOR(S)> MADSEN,O.S., WHITE,S.M.
KEYWORDS> BREAKWATERS;FRICTION FACTOR, REFLECTION,WAVE;TRANSMISSION,WAVE

MR 77-4 <A LABORATORY STUDY OF THE STABILITY OF SAND FILLED NYLON BAG BREAKWATER STRUCTURES (MAR 1977)
AUTHOR(S)> RAY,R.E.

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KEYWORDS→ BREAKWATERS;SAND BAGS

MR 79-1 <AN ANNOTATED BIBLIOGRAPHY ON DETACHED BREAKWATERS AND ARTIFICAL HEADLANDS (FEB 1979)
AUTHOR(S)→ LESNIK,J.R.
KEYWORDS→ BIBLIOGRAPHIES;BREAKWATERS

R 2-66 <BREAKWATERS WITH VERTICAL AND SLOPING FACES (FEB 1966)
AUTHOR(S)→ GARCIA,W.J.; LEO,C.E.; SAVILLE,T.,JR.
KEYWORDS→ BREAKWATERS;TRANSMISSION,WAVE;WAVE FORCES

R 3-70 <COASTAL REGIME, RECENT U.S. EXPERIENCE (JUN 1970)
AUTHOR(S)→ SAVILLE,T.,JR.
KEYWORDS→ BREAKWATERS;CURRENTS;PORT STRUCTURES

R 4-70 <BREAKER TRAVEL AND CHOICE OF DESIGN WAVE HEIGHT (MAY 1970)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ BREAKWATERS;RUNUP,WAVE;WAVE CHARACTERISTICS

R 1-73 <USE OF DOLOS ARMOR UNITS IN RUBBLE-MOUND STRUCTURES IN THE ARCTIC/ (AUG 1973)
AUTHOR(S)→ MAGOON,O.T.; SHIMIZU,N.
KEYWORDS→ ARMOR UNITS;BREAKWATERS;DOLOS; HUMBOLDT BAY,CA

R 78-8 <SEDIMENTS IMPOUNDED BY AN OFFSHORE BREAKWATER (FEB 1978)
AUTHOR(S)→ BRUNO,R.O.; GABLE,C.G.; WATTS,G.M.
KEYWORDS→ BREAKWATERS;CHANNEL ISLANDS HARBOR,CA; SEDIMENT TRANSPORT

R 79-4 <RUBBLE-MOUND STRUCTURES AS ARTIFICIAL REEFS (AUG 1979)
AUTHOR(S)→ HURME,A.K.
KEYWORDS→ ARTIFICIAL REEFS;BREAKWATERS;RINCON ISLAND,CA

R 79-6 <PREDICTING BEACH PLANFORMS IN THE LEE OF A BREAKWATER (AUG 1979)
AUTHOR(S)→ PERLIN,M.
KEYWORDS→ BREAKWATERS;DIFFRACTION,WAVE; MATHEMATICAL MODELS;REFRACTION,WAVE

R 81-10 <STABILITY OF RUBBLE MOUND BREAKWATERS (NOV 1981)
AUTHOR(S)→ WALTON,T.L.,JR.; WEGGEL,J.R.
KEYWORDS→ BREAKWATERS;WAVE CHARACTERISTICS

R 83-12 <BREAKWATERS FOR BEACH PROTECTION AT LORAIN,OHIO (MAY 1983)
AUTHOR(S)→ POPE,J.; ROWEN,D,D,
KEYWORDS→ BREAKWATERS;COASTAL STRUCTURES; LORAIN,OH

TM 57 <EFFECTS OF A BREAKWATER ON NEARSHORE CURRENTS DUE TO BREAKING WAVES (NOV 1975)
AUTHOR(S)→ LIU,P.L., MEI,C.C.
KEYWORDS→ BREAKWATERS;CURRENTS;DIFFRACTION,WAVE, REFRACTION,WAVE

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KEYWORDS> BUDGET,SEDIMENT;POINT ARGUELLO,CA;
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MR 76-1 <SHOALING RATES AND RELATED DATA FROM KNIK ARM
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AUTHOR(S)> EVERTS,C.H.; MOORE,H.E.
KEYWORDS> BULK DENSITY;CURRENTS;KNIK ARM,AK;
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MR 76-4 <SIMPLIFIED DESIGN METHODS OF TREATED TIMBER
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AUTHOR(S)> AYERS,J.; STOKES,R.
KEYWORDS> BULKHEADS;GROINS;MARINE ENGINEERING;
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TM 42 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER
CONTINENTAL SHELF, CAPE CANAVERAL, FLORIDA
(MAR 1974)
AUTHOR(S)> DUANE,D.B.; FIELD,M.E.
KEYWORDS> BEACH NOURISHMENT;CAPE CANAVERAL,FL;
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TP 77-1 <BEACH CHANGES CAUSED BY THE ATLANTIC COAST
STORM OF 17 DECEMBER 1970 (JAN 1977)
AUTHOR(S)> DEWALL,A.E.; GALVIN,C.J.,JR.;
PRITCHETT,P.C.
KEYWORDS> ATLANTIC CITY,NJ;BEACH EVALUATION
PROGRAM-CERC;CAPE COD,MA;EROSION;JONES
BEACH,NY;LONG BEACH ISLAND,NJ;LUDLAM
ISLAND,NJ;MISQUAMICUT,RI;PROFILES;TIDES;
WESTHAMPTON BEACH,NY

TP 80-5 <EXPERIMENTAL DUNE RESTORATION AND
STABILIZATION, NAUSET BEACH, CAPE COD,
MASSACHUSETTS (AUG 1980)
AUTHOR(S)> KNUTSON,P.L.
KEYWORDS> CAPE COD,MA;DUNES;FENCES,SAND;NAUSET
BEACH,MA;VEGETATION

CAPE FEAR,NC

TP 79-3 <RECONNAISSANCE GEOLOGY OF THE INNER CONTINENTAL

SHELF, CAPE FEAR REGION, NORTH CAROLINA (SEP 1979)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CAPE FEAR,NC;ICONS;
INNER CONTINENTAL SHELF

CAPE HATTERAS,NC

TM 22 <DUNE STABILIZATION WITH VEGETATION ON THE OUTER BANKS OF NORTH CAROLINA (AUG 1967)
AUTHOR(S)→ HANES,R.E.; WOODHOUSE,W.W.,JR.
KEYWORDS→ CAPE HATTERAS,NC;DUNES;TRANSPLANTING;
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CAPE KENNEDY,FL

TM 34 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER CONTINENTAL SHELF, PALM BEACH TO CAPE KENNEDY, FLORIDA (FEB 1971)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CAPE KENNEDY,FL;GEOMORPHOLOGY;ICONS;
PALM BEACH,FL;SEISMIC REFLECTION

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MR 80-4 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OF THE CAPE MAY REGION, NEW JERSEY(JUL 1980)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CAPE MAY,NJ;GEOMORPHOLOGY;ICONS;INNER
CONTINENTAL SHELF;SEISMIC REFLECTION

R 79-3 <BEACH BEHAVIOR IN THE VICINITY OF GROINS-TWO NEW JERSEY FIELD EXAMPLES (AUG 1979)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ CAPE MAY,NJ;GROINS;SEA ISLE CITY,NJ;
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R 83-15 <CAPE FORMATION AS A CAUSE OF EROSION ON ADJACENT SHORELINES (JUN 1983)
AUTHOR(S)→ FINKELSTEIN,K.
KEYWORDS→ ASSATEAGUE ISLAND,MD;CAPES;EROSION;
GEOMORPHOLOGY

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MR 81-6 <ANALYSIS OF COASTAL SEDIMENT TRANSPORT PROCESSES FROM WRIGHTSVILLE BEACH TO FORT FISHER, NORTH CAROLINA (JUN 1981)
AUTHOR(S)→ CHOU,I.B.; CRANE,J.D.; POWELL,G.M.,
WINTON,T.C.

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AUTHOR(S)→ MOFFATT AND NICHOL ,ENGINEERS
KEYWORDS→ COASTAL STRUCTURES;CONSTRUCTION MATERIALS

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CETA 80-4 <DATA COLLECTION METHODS FOR SAND INVENTORY-TYPE SURVEYS (MAR 1980)
AUTHOR(S)→ PRINS,D.A.
KEYWORDS→ CONTINENTAL SHELF;DATA COLLECTION;ICONS

MP 1-66 <INTERAGENCY CONFERENCE ON CONTINENTAL SHELF RESEARCH (JAN 1966)
AUTHOR(S)→ TANEY,N.E.
KEYWORDS→ CONTINENTAL SHELF;GEOMORPHOLOGY; SEDIMENT TRANSPORT

R 1-70 <SHALLOW STRUCTURAL CHARACTERISTICS OF FLORIDA ATLANTIC SHELF AS REVEALED BY SEISMIC REFLECTION PROFILES (OCT 1970)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CONTINENTAL SHELF;ICONS;SEISMIC REFLECTION

R 3-72 <REGIONAL SHELF STUDIES, A GUIDE TO ENGINEERING DESIGN (SEP 1972)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ COASTAL STRUCTURES;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS

R 22-73 <LINEAR SHOALS ON THE ATLANTIC INNER CONTINENTAL SHELF, FLORIDA TO LONG ISLAND (1973)
AUTHOR(S)→ DUANE,D.B.
KEYWORDS→ ATLANTIC COAST;CONTINENTAL SHELF; SHOALING

R 24-73 <ONSHORE TRANSPORTATION OF CONTINENTAL SHELF SEDIMENT: ATLANTIC SOUTHEASTERN UNITED STATES (1973)
AUTHOR(S)→ FIELD,M.E.; PILKEY,O.H.
KEYWORDS→ CONTINENTAL SHELF;ICONS;SEDIMENT TRANSPORT

TM 29 <GEOMORPHOLOGY AND SEDIMENTS OF THE NEARSHORE CONTINENTAL SHELF, MIAMI TO PALM BEACH, FLORIDA (NOV 1969)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS;MIAMI,FL;PALM BEACH,FL; SEISMIC REFLECTION

TM 45 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER NEW YORK BIGHT CONTINENTAL SHELF (JUL 1974)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF;

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AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ ARMOR UNITS;BREAKWATERS;COST ESTIMATES

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R 83-10 — <SHORELINE CHANGES DOWNDRIFT OF A LITTORAL BARRIER (MAY 1983)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ CRENULATE-SHAPED BAYS;LITTORAL BARRIERS;SHORE PROCESSES

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MR 76-11 — <MEASUREMENT TECHNIQUES FOR COASTAL WAVES AND CURRENTS (NOV 1976)
AUTHOR(S)→ MUSIALOWSKI,F.R.; PRINS,D.A.; TELEKI,P.G.
KEYWORDS→ CURRENT METERS;DYE TRACERS;GAGES,WAVE; INSTRUMENTATION;SEA SLED

TM 3 — <A THERMISTOR PROBE FOR MEASURING PARTICLE ORBITAL SPEED IN WATER WAVES (MAR 1964)
AUTHOR(S)→ EAGLESON,P.S.; VAN DE WATERING,W.P.
KEYWORDS→ CURRENT METERS;INSTRUMENTATION; THERMISTOR

TM 5 — <NEARSHORE TIDAL AND NONTIDAL CURRENTS, VIRGINIA BEACH, VIRGINIA (APR 1964)
AUTHOR(S)→ BREHMER,M.L.; HARRISON,W.; STONE,R.B.
KEYWORDS→ CURRENT METERS;CURRENTS;DIFFUSION; VIRGINIA BEACH,VA

TM 21 — <A MULTI-PURPOSE DATA ACQUISITION SYSTEM FOR INSTRUMENTATION OF THE NEARSHORE ENVIRONMENT (AUG 1967)
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KEYWORDS→ CURRENT METERS;GAGES,WAVE;SEDIMENT TRANSPORT

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AUTHOR(S)→ SORENSEN,R.M.
KEYWORDS→ CURRENTS;TIDAL INLETS

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AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ CURRENTS;LEO;LONGSHORE ENERGY FLUX

CETA 81-14 — <EFFECTS OF CURRENTS ON WAVES (OCT 1981)

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AUTHOR(S)→ PRINS,D.A.; TELEKI,P.G.
KEYWORDS→ AERIAL PHOTOGRAPHY;CURRENTS;REMOTE SENSING

R 76-3 <DATA ACQUISITION METHODS FOR COASTAL CURRENTS (JUN 1976)
AUTHOR(S)→ MUSIALOWSKI,F.R.; PRINS,D.A.; TELEKI,P.G.
KEYWORDS→ CURRENTS;DATA COLLECTION; INSTRUMENTATION

R 78-1 <VISUAL SURF OBSERVATIONS/MARINELAND EXPERIMENT (FEB 1978)
AUTHOR(S)→ SCHNEIDER,C.
KEYWORDS→ CURRENTS;LEO;MARINELAND,FL;WIND

R 79-2 <THE EFFECTS OF THE 19 DECEMBER 1977 COASTAL STORM ON BEACHES IN NORTH CAROLINA AND NEW JERSEY (JAN 1979)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ CURRENTS;DARE COUNTY,NC;DATA COLLECTION;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES;STORMS

R 81-1 <SEASAT DETECTION OF WAVES, CURRENTS AND INLET DISCHARGE (MAR 1981)
AUTHOR(S)→ LICHY,D.E.; MATTIE,M.G.
KEYWORDS→ CURRENTS;DUCK,NC;FIELD RESEARCH FACILITY-CERC;RADAR;SEASAT;SYNTHETIC APERTURE RADAR(SAR);TIDAL INLETS

R 81-2 <LITTORAL SAND TRANSPORT FROM LONGSHORE CURRENTS (APR 1981)
AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ CURRENTS;LEO;LONGSHORE ENERGY FLUX

TM 5 <NEARSHORE TIDAL AND NONTIDAL CURRENTS, VIRGINIA BEACH, VIRGINIA (APR 1964)
AUTHOR(S)→ BREHMER,M.L.; HARRISON,W.; STONE,R.B.
KEYWORDS→ CURRENT METERS;CURRENTS;DIFFUSION; VIRGINIA BEACH,VA

TM 7 <INTERACTIONS OF THE BEACH-OCEAN-ATMOSPHERE SYSTEM AT VIRGINIA BEACH, VA. (DEC 1964)
AUTHOR(S)→ HARRISON,W.; KRUMBEIN,W.C.
KEYWORDS→ CURRENTS;SHORE PROCESSES;VIRGINIA BEACH,VA;WIND

TM 8 <SEDIMENTATION AT AN INLET ENTRANCE (RUDEE INLET-VIRGINIA BEACH, VA.) (DEC 1964)
AUTHOR(S)→ HARRISON,W.; KRUMBEIN,W.C.; WILSON,W.S.
KEYWORDS→ CURRENTS;RUDEE INLET,VA;TIDAL INLETS; VIRGINIA BEACH,VA

TM 10 <EXPERIMENTAL STUDY OF LONGSHORE CURRENTS ON A PLANE BEACH (JAN 1965)
AUTHOR(S)→ EAGLESON,P.S.; GALVIN,C.J.,JR.

KEYWORDS→ CURRENTS;SEDIMENT TRANSPORT

TM 49 <ANALYSIS AND INTERPRETATION OF LITTORAL ENVIRONMENT OBSERVATION (LEO) AND PROFILE DATA ALONG THE WESTERN PANHANDLE COAST OF FLORIDA (MAR 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ AERIAL PHOTOGRAPHY;CURRENTS; GEOMORPHOLOGY;LEO;PROFILES;STORMS

TM 57 <EFFECTS OF A BREAKWATER ON NEARSHORE CURRENTS DUE TO BREAKING WAVES (NOV 1975)
AUTHOR(S)→ LIU,P.L.; MEI,C.C.
KEYWORDS→ BREAKWATERS;CURRENTS;DIFFRACTION,WAVE; REFRACTION,WAVE

TM 58 <SURF OBSERVATIONS AND LONGSHORE CURRENT PREDICTION (NOV 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ CURRENTS;GEOMORPHOLOGY;LEO;PROFILES; PT. MUGU,CA

TP 76-1 <SHOALING RATES AND RELATED DATA FROM KNIK ARM NEAR ANCHORAGE, ALASKA (MAR 1976)
AUTHOR(S)→ EVERTS,C.H.; MOORE,H.E.
KEYWORDS→ BULK DENSITY;CURRENTS;HARBORS;KNIK ARM,AK;SHOALING;TIDES

TP 77-10 <LITTORAL ENVIRONMENT OBSERVATIONS AND BEACH CHANGES ALONG THE SOUTHEAST FLORIDA COAST (OCT 1977)
AUTHOR(S)→ DEWALL,A.E.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;CURRENTS;HOLLYWOOD,FL;JUPITER,FL; LEO;PROFILES;WAVE CLIMATOLOGY

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R 19-73 <WAVE RUNUP ON VERTICAL CYLINDERS (JUL 1973)
AUTHOR(S)→ GALVIN,C.J.,JR.; HALLERMEIER,R.J.
KEYWORDS→ CYLINDERS;RUNUP,WAVE

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TP 76-18 <HYDRODYNAMIC DAMPING AND ADDED MASS FOR FLEXIBLE OFFSHORE PLATFORMS (OCT 1976)
AUTHOR(S)→ PETRAUSKAS,C.
KEYWORDS→ ADDED MASS;DAMPING;OFFSHORE PLATFORMS; WAVE FORCES

TP 77-2 <STILLING WELL DESIGN FOR ACCURATE WATER LEVEL MEASUREMENT (JAN 1977)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ DAMPING;INSTRUMENTATION;STILLING WELL

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AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ CURRENTS;DARE COUNTY,NC.DATA COLLECTION;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES;STORMS

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AUTHOR(S)→ PRINS,D.A.
KEYWORDS→ CONTINENTAL SHELF;DATA COLLECTION;ICONS

CETA 81-5 <THE LITTORAL ENVIRONMENT OBSERVATION (LEO) DATA COLLECTION PROGRAM (MAR 1981)
AUTHOR(S)→ SCHNEIDER,C.
KEYWORDS→ DATA COLLECTION;LEO;WAVE CLIMATOLOGY

MR 82-6 <LITTORAL ENVIRONMENT OBSERVATION (LEO) DATA SUMMARIES, NORTHERN CALIFORNIA, 1968-78 (AUG 1982)
AUTHOR(S)→ SCHNEIDER,C.; WEGGEL,J.R.
KEYWORDS→ DATA COLLECTION;LEO

MR 82-16 <CERC FIELD RESEARCH FACILITY ENVIRONMENTAL DATA SUMMARY, 1977-79 (DEC 1982)
AUTHOR(S)→ MILLER,H.C.
KEYWORDS→ DATA COLLECTION;DUCK,NC;FIELD RESEARCH FACILITY-CERC

R 4-69 <SYSTEMATIC COLLECTION OF BEACH DATA (SEP 1969)
AUTHOR(S)→ BERG,D.W.
KEYWORDS→ DATA COLLECTION;LEO

R 76-3 <DATA ACQUISITION METHODS FOR COASTAL CURRENTS (JUN 1976)
AUTHOR(S)→ MUSIALOWSKI,F.R.; PRINS,D.A.; TELEKI,P.G.
KEYWORDS→ CURRENTS;DATA COLLECTION; INSTRUMENTATION

R 79-2 <THE EFFECTS OF THE 19 DECEMBER 1977 COASTAL STORM ON BEACHES IN NORTH CAROLINA AND NEW JERSEY (JAN 1979)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ CURRENTS;DARE COUNTY,NC;DATA COLLECTION,LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES;STORMS

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TP 79-2 <SEDIMENTS, SHALLOW SUBBOTTOM STRUCTURE, AND SAND RESOURCES OF THE INNER CONTINENTAL SHELF, CENTRAL DELMARVA PENINSULA (JUN 1979)

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AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ DILLINGHAM HARBOR,AK;HARBORS;SEDIMENT TRANSPORT

R 77-1 <SEDIMENTATION IN A HALF-TIDE HARBOR (FEB 1977)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ DILLINGHAM HARBOR,AK;HARBORS;SEDIMENT TRANSPORT;SHOALING

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SR 2 <SMALL-CRAFT HARBORS: DESIGN, CONSTRUCTION, AND OPERATION (DEC 1974)
AUTHOR(S)→ DUNHAM,J.W.; FINN,A.A.
KEYWORDS→ DOCKS;HARBORS;MARINAS;PIERS

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R 1-73 <USE OF DOLOS ARMOR UNITS IN RUBBLE-MOUND STRUCTURES IN THE ARCTIC/ (AUG 1973)
AUTHOR(S)→ MAGOON,O.T.; SHIMIZU,N.
KEYWORDS→ ARMOR UNITS;BREAKWATERS;DOLOS; HUMBOLDT BAY,CA

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TM 24 <TABLES OF THE STATISTICAL DISTRIBUTION OF OCEAN WAVE FORCES AND METHODS OF ESTIMATING DRAG AND MASS COEFFICIENTS (OCT 1967)
AUTHOR(S)→ BORGMAN,L.E.; BROWN,L.J.
KEYWORDS→ DRAG COEFFICIENTS;PILES;WAVE FORCES

TM 28 <BED FORMS GENERATED IN THE LABORATORY UNDER AN OSCILLATORY FLOW: ANALYTICAL AND EXPERIMENTAL STUDY (JUN 1969)
AUTHOR(S)→ ALTINBILEK,H.D.; CARSTENS,M.R.; NEILSON,F.M.
KEYWORDS→ BED FORMS;DRAG COEFFICIENTS;DUNES; RIPPLES;SEDIMENT TRANSPORT

TM 56 <AN ANALYSIS OF DRAG COEFFICIENT AT HURRICANE WINDSPEEDS FROM A NUMERICAL SIMULATION OF DYNAMICAL WATER LEVEL CHANGES IN LAKE OKEECHOBEE, FLORIDA (OCT 1975)
AUTHOR(S)→ REID,R.O.; VASTANO,A.C.; WHITAKER,R.E.
KEYWORDS→ DRAG COEFFICIENTS;HURRICANES;LAKE OKEECHOBEE,FL;STORM SURGE

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R 80-3 <SAND MOTION INITIATION BY WATER WAVES: TWO ASYMPTOTES (NOV 1980)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ DRAG FORCES;EROSION;SEDIMENT TRANSPORT

R 81-11 <MEASUREMENTS OF OSCILLATORY DRAG ON SAND RIPPLES (JAN 1982)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ BED FORMS;DRAG FORCES;SAND RIPPLES; SEDIMENT TRANSPORT

TP 77-11 <FORCES EXERTED BY WAVES ON A PIPELINE AT OR NEAR THE OCEAN BOTTOM (OCT 1977)
AUTHOR(S)→ BOWIE,G.L.
KEYWORDS→ DRAG FORCES;LIFT FORCES;PIPELINES; WAVE FORCES

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TM 14 <SAND MOVEMENT ALONG A PORTION OF THE NORTHERN CALIFORNIA COAST (OCT 1965)
AUTHOR(S)→ CHERRY,J.S
KEYWORDS→ BODEGA HEAD,CA;DRAKES BAY,CA;LITTORAL BARRIERS;POINT REYES,CA;RUSSIAN RIVER,CA; SEDIMENT TRANSPORT

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MP 3-67 <A FEASIBILITY STUDY OF A WAVE-POWERED DEVICE FOR MOVING SAND (JUN 1967)
AUTHOR(S)→ MONROE,F.F.
KEYWORDS→ DREDGING

MP 1-73 <ECOLOGICAL EFFECTS OF OFFSHORE DREDGING AND BEACH NOURISHMENT: A REVIEW (JAN 1973)
AUTHOR(S)→ THOMPSON,J.R.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;ECOLOGY

MR 76-1 <EFFECTS OF SUSPENDED SOLIDS ON SELECTED ESTUARINE PLANKTON (JAN 1976)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.
KEYWORDS→ BIOLOGICAL COMPONENTS;DREDGING; PHYTOPLANKTON;SEDIMENT TRANSPORT

MR 82-1 <BENTHIC FAUNA OF AN OFFSHORE BORROW AREA IN BROWARD COUNTY, FLORIDA (JAN 1982)
AUTHOR(S)→ MARSH,G.A.; TURBEVILLE,D.B.
KEYWORDS→ BROWARD COUNTY,FL;DREDGING;ECOLOGY; FAUNA

MR 82-3 <BENTHIC COMMUNITY RESPONSE TO DREDGING BORROW PITS, PANAMA CITY BEACH,FLORIDA (MAR 1982)
AUTHOR(S)→ NAUGHTON,S.P.; SALOMAN,C.H.; TAYLOR,J.L.

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R 2-72 <MARSH BUILDING WITH DREDGE SPOIL IN NORTH CAROLINA (JUL 1972)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.; WOODHOUSE,W.W.,JR.
KEYWORDS→ DREDGING;ECOLOGY

R 2-75 <CONSTRUCTION IN THE COASTAL ZONE: A POTENTIAL USE OF WASTE MATERIAL (AUG 1975)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ ARTIFICIAL ISLANDS;DREDGING;NEW YORK BIGHT

R 78-6 <NEARSHORE DISPOSAL: ONSHORE SEDIMENT TRANSPORT (FEB 1978)
AUTHOR(S)→ MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;PROFILES;SEDIMENT TRANSPORT

R 78-10 <SEDIMENT HANDLING AND BEACH FILL DESIGN (FEB 1978)
AUTHOR(S)→ HOBSON,R.D.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;ROCKAWAY BEACH,NY

R 78-13 <DESIGN OF RETENTION STRUCTURES FOR MARSH HABITATS (NOV 1978)
AUTHOR(S)→ ECKERT,J.W.
KEYWORDS→ DIKES;DREDGING

R 79-1 <GEOLOGIC EFFECTS OF OCEAN DUMPING ON THE NEW YORK BIGHT INNER SHELF (MAR 1979)
AUTHOR(S)→ WILLIAMS,S.J.
KEYWORDS→ DREDGING;GEOMORPHOLOGY;NEW YORK BIGHT; SEISMIC REFLECTION

TM 39 <OCEAN DUMPING IN THE NEW YORK BIGHT: AN ASSESSMENT OF ENVIRONMENTAL STUDIES (MAY 1973)
AUTHOR(S)→ PARARAS-CARAYANNIS,G
KEYWORDS→ DREDGING;NEW YORK BIGHT

TM 52 <SALT MARSH ESTABLISHMENT AND DEVELOPMENT (JUN 1975)
AUTHOR(S)→ GARBISCH,E.W.,JR.; MCCALLUM,R.J.; WOLLER,P.B.
KEYWORDS→ CHESAPEAKE BAY;DREDGING;MARSHES; VEGETATION

TP 76-7 <ANIMAL COLONIZATION OF MAN-INITIATED SALT MARSHES ON DREDGE SPOIL (JUN 1976)
AUTHOR(S)→ CAMMEN,L.M.; COPELAND,B.J.; SENECA,E.D.
KEYWORDS→ DREDGING;DRUM INLET,NC;EROSION;FAUNA, MARSHES;SNOWS CUT,NC;VEGETATION

TP 76-15 <EFFECTS OF DREDGING AND DISPOSAL ON SOME BENTHOS AT MONTEREY BAY, CALIFORNIA (OCT 1976)
AUTHOR(S)→ OLIVER,J.S.; SLATTERY,P.N.
KEYWORDS→ DREDGING;ECOLOGY;FAUNA;MONTEREY BAY,CA;RECOLONIZATION RATES

DRUM INLET,NC

TP 76-7 <ANIMAL COLONIZATION OF MAN-INITIATED SALT MARSHES ON DREDGE SPOIL (JUN 1976)
AUTHOR(S)→ CAMMEN,L.M.; COPELAND,B.J.; SENECA,E.D.
KEYWORDS→ DREDGING;DRUM INLET,NC;EROSION;FAUNA; MARSHES;SNOWS CUT,NC;VEGETATION

DUCK,NC

MR 76-6 <VEGETATIVE STUDY AT THE DUCK FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (APR 1976)
AUTHOR(S)→ LEVY,G.F.
KEYWORDS→ DUCK,NC;DUNES;FIELD RESEARCH FACILITY-CERC;VEGETATION

MR 77-6 <BEACH FAUNA STUDY OF THE CERC FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (APR 1977)
AUTHOR(S)→ MATTA,J.F.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC

MR 80-8 <INSTRUMENTATION AT CERC'S FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (OCT 1980)
AUTHOR(S)→ MILLER,H.C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; INSTRUMENTATION

MR 81-7 <A USER'S GUIDE TO CERC'S FIELD RESEARCH FACILITY (OCT 1981)
AUTHOR(S)→ BIRKEMEIER,W.A.; DEWALL,A.E.; GORBICS,C.S.; MILLER,H.C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; INSTRUMENTATION

MR 82-12 <LONG-TERM CHANGES IN BEACH FAUNA AT DUCK, NORTH CAROLINA (NOV 1982)
AUTHOR(S)→ DEALTERIS,J.T.; DIAZ,R.J.
KEYWORDS→ DUCK,NC;FAUNA;FIELD RESEARCH FACILITY-CERC

MR 82-16 <CERC FIELD RESEARCH FACILITY ENVIRONMENTAL DATA SUMMARY, 1977-79 (DEC 1982)
AUTHOR(S)→ MILLER,H.C.
KEYWORDS→ DATA COLLECTION;DUCK,NC;FIELD RESEARCH FACILITY-CERC

MR 83-4 <REEVALUATION OF VEGETATIONAL CHARACTERISTICS AT THE CERC FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (MAR 1983)
AUTHOR(S)→ HARRIS,R.L.; LEVY,G.F.; PERRY,J.E.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; VEGETATION

R 79-12 <THE COASTAL ENGINEERING RESEARCH CENTER'S FIELD RESEARCH FACILITY AT DUCK, NORTH CAROLINA (NOV 1979)

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AUTHOR(S)→ MASON,C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC;
PIERS

R 81-1 <SEASAT DETECTION OF WAVES, CURRENTS AND INLET
DISCHARGE (MAR 1981)
AUTHOR(S)→ LICHY,D.E.; MATTIE,M.G.
KEYWORDS→ CURRENTS;DUCK,NC;FIELD RESEARCH
FACILITY-CERC;RADAR;SEASAT;SYNTHETIC
APERTURE RADAR(SAR);TIDAL INLETS

R 83-13 <EFFECTS OF CERC RESEARCH PIER ON NEARSHORE
PROCESSES (MAY 1983)
AUTHOR(S)→ BIRKEMEIER,W.A.; DEWALL,A.E.;
MILLER,H.C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC;
SHORE PROCESSES

DUNE BUILDING*

*SEE DUNES

DUNE STABILIZATION*

*SEE DUNES

DUNES

MP 1-70 <EXPERIMENTAL DUNES OF THE TEXAS COAST (JAN 1970)
AUTHOR(S)→ GAGE,B.O.
KEYWORDS→ BARRIER ISLANDS;CORPUS CHRISTI
PASS,TX;DUNES;FENCES,SAND;GALVESTON
ISLAND,TX;NORTH PADRE ISLAND,TX;PACKERY
CHANNEL,TX;VEGETATION

MR 76-3 <DUNE STABILIZATION WITH PANICUM AMARUM ALONG
THE NORTH CAROLINA COAST (FEB 1976)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.;
WOODHOUSE,W.W.,JR.
KEYWORDS→ DUNES;TRANSPLANTING;VEGETATION

MR 76-6 <VEGETATIVE STUDY AT THE DUCK FIELD RESEARCH
FACILITY, DUCK, NORTH CAROLINA (APR 1976)
AUTHOR(S)→ LEVY,G.F.
KEYWORDS→ DUCK,NC;DUNES;FIELD RESEARCH
FACILITY-CERC;VEGETATION

MR 77-8 <MONITORING OF FOREDUNES ON PADRE ISLAND, TEXAS
(JUL 1977)
AUTHOR(S)→ DAHL,B.E.; GOEN,J.P.
KEYWORDS→ DUNES;PADRE ISLAND,TX;VEGETATION

MR 83-8 <POSTHURRICANE SURVEY OF EXPERIMENTAL DUNES ON
PADRE ISLAND, TEXAS (MAR 1983)
AUTHOR(S)→ COTTER,P.C.; DAHL,B.E.; DRBAL,D.D.;
WESTER,D.B.
KEYWORDS→ DUNES;HURRICANES;HURRICANES;PADRE

ISLAND,TX;VEGETATION

R 3-69 <CREATION AND STABLIZATION OF COASTAL BARRIER DUNES (SEP 1969)
AUTHOR(S)→ SAVAGE,R.P.; WOODHOUSE,W.W.,JR.
KEYWORDS→ DUNES

R 78-12 <PLANTING GUIDELINES FOR DUNE CREATION AND STABILIZATION (NOV 1978)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ DUNES;FENCES,SAND;VEGETATION

R 83-4 <MOVABLE-BED MODELING LAW FOR COASTAL DUNE EROSION (MAY 1983)
AUTHOR(S)→ HUGHES,S.A.
KEYWORDS→ DUNES;MOVABLE-BED MODELING

SR 3 <DUNE BUILDING AND STABILIZATION WITH VEGETATION (SEP 1978)
AUTHOR(S)→ WOODHOUSE,W.W.,JR.
KEYWORDS→ DUNES;FENCES,SAND;VEGETATION

TM 22 <DUNE STABILIZATION WITH VEGETATION ON THE OUTER BANKS OF NORTH CAROLINA (AUG 1967)
AUTHOR(S)→ HANES,R.E.; WOODHOUSE,W.W.,JR.
KEYWORDS→ CAPE HATTERAS,NC;DUNES;TRANSPLANTING; VEGETATION

TM 28 <BED FORMS GENERATED IN THE LABORATORY UNDER AN OSCILLATORY FLOW: ANALYTICAL AND EXPERIMENTAL STUDY (JUN 1969)
AUTHOR(S)→ ALTINBILEK,H.D.; CARSTENS,M.R.; NEILSON,F.M.
KEYWORDS→ BED FORMS;DRAG COEFFICIENTS;DUNES; RIPPLES;SEDIMENT TRANSPORT

TP 80-5 <EXPERIMENTAL DUNE RESTORATION AND STABILIZATION, NAUSET BEACH, CAPE COD, MASSACHUSETTS (AUG 1980)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ CAPE COD,MA;DUNES;FENCES,SAND;NAUSET BEACH,MA;VEGETATION

DYE TRACERS

MR 76-11 <MEASUREMENT TECHNIQUES FOR COASTAL WAVES AND CURRENTS (NOV 1976)
AUTHOR(S)→ MUSIALOWSKI,F.R.; PRINS,D.A.; TELEKI,P.G.
KEYWORDS→ CURRENT METERS;DYE TRACERS;GAGES,WAVE; INSTRUMENTATION;SEA SLED

EARTHQUAKES

TM 25 <THE TSUNAMI OF THE ALASKAN EARTHQUAKE, 1964; ENGINEERING EVALUATION (MAY 1968)
AUTHOR(S)→ TORUM,A.; WILSON,B.W.
KEYWORDS→ ALASKA;EARTHQUAKES;SEISMIC SEA WAVES;

EAST BAY,TX

MR 78-1 <SHORELINE PLANT ESTABLISHMENT AND USE OF A WAVE-STILLING DEVICE (JAN 1978)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ EAST BAY,TX;TIRES;TRANSPLANTING; VEGETATION

TP 76-13 <VEGETATION ESTABLISHMENT AND SHORELINE STABILIZATION: GALVESTON BAY, TEXAS (AUG 1976)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ EAST BAY,TX;TRANSPLANTING;VEGETATION

ECOLOGY

MP 1-73 <ECOLOGICAL EFFECTS OF OFFSHORE DREDGING AND BEACH NOURISHMENT: A REVIEW (JAN 1973)
AUTHOR(S)→ THOMPSON,J.R.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;ECOLOGY

MR 78-2 <AN ANNOTATED BIBLIOGRAPHY OF CERC COASTAL ECOLOGY RESEARCH (MAY 1978)
AUTHOR(S)→ HURME,A.K.; KNUTSON,P.L.; PULLEN,E.J.; YANCEY,R.M.
KEYWORDS→ BIBLIOGRAPHIES;ECOLOGY

MR 78-3 <ECOLOGICAL EFFECTS OF AN ARTIFICIAL ISLAND, RINCON ISLAND, PUNTA GORDA, CALIFORNIA (SEP 1978)
AUTHOR(S)→ DEWIT,L.A.; JOHNSON,G.F.
KEYWORDS→ ARMOR UNITS;ARTIFICIAL ISLANDS; ECOLOGY;FISH;RINCON ISLAND,CA

MR 80-1 (I) <ECOLOGICAL EVALUATION OF A BEACH NOURISHMENT PROJECT AT HALLANDALE (BROWARD COUNTY), FLORIDA (FEB 1980)
AUTHOR(S)→ COURTENAY,W.R.,JR.; HARTIG,B.C.; LOISEL,G.R.
KEYWORDS→ BEACH NOURISHMENT;BROWARD COUNTY,FL; ECOLOGY;FISH;HALLANDALE,FL

MR 80-5 <AN ANNOTATED BIBLIOGRAPHY OF CERC COASTAL ECOLOGY RESEARCH (JUN 1980)
AUTHOR(S)→ HURME,A.K.; KNUTSON,P.L.; PULLEN,E.J.; YANCEY,R.M.
KEYWORDS→ BIBLIOGRAPHIES;ECOLOGY

MR 82-1 <BENTHIC FAUNA OF AN OFFSHORE BORROW AREA IN BROWARD COUNTY, FLORIDA (JAN 1982)
AUTHOR(S)→ MARSH,G.A.; TURBEVILLE,D.B.
KEYWORDS→ BROWARD COUNTY,FL;DREDGING;ECOLOGY; FAUNA

MR 82-3 <BENTHIC COMMUNITY RESPONSE TO DREDGING BORROW PITS, PANAMA CITY BEACH,FLORIDA (MAR 1982)
AUTHOR(S)→ NAUGHTON,S.P.; SALOMAN,C.H.; TAYLOR,J.L.

KEYWORDS→ DREDGING;ECOLOGY;PANAMA CITY BEACH,FL

MR 82-14 <EFFECTS OF BEACH NOURISHMENT AND BORROWING ON MARINE ORGANISMS (DEC 1982)
AUTHOR(S)→ NAQVI,S.M.; PULLEN,E.J.
KEYWORDS→ BEACH NOURISHMENT;ECOLOGY

MR 83-3 <THE ECOLOGICAL IMPACT OF BEACH NOURISHMENT WITH DREDGED MATERIALS ON THE INTERTIDAL ZONE AT BOGUE BANKS, NORTH CAROLINA (MAR 1983)
AUTHOR(S)→ BELLIS,V.J.; REILLY,F.J.
KEYWORDS→ BEACH NOURISHMENT;BOGUE BANKS,NC; ECOLOGY

R 2-72 <MARSH BUILDING WITH DREDGE SPOIL IN NORTH CAROLINA (JUL 1972)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.; WOODHOUSE,W.W.,JR.
KEYWORDS→ DREDGING;ECOLOGY

R 83-3 <BIOLOGICAL IMPACTS ON BEACH NOURISHMENT AND BORROWING (APR 1983)
AUTHOR(S)→ NAQVI,S.M.; PULLEN,E.J.
KEYWORDS→ BEACH NOURISHMENT;ECOLOGY

TM 41 <ECOLOGICAL MONITORING OF BEACH EROSION CONTROL PROJECTS, BROWARD COUNTY, FLORIDA, AND ADJACENT AREAS (FEB 1974)
AUTHOR(S)→ AZZINARO,W.P.; COURTENAY,W.R.,JR.; HERREMA,D.J.; THOMPSON,M.J.; VAN MONTFRANS,J.
KEYWORDS→ BEACH NOURISHMENT;BROWARD COUNTY,FL; ECOLOGY

TP 76-15 <EFFECTS OF DREDGING AND DISPOSAL ON SOME BENTHOS AT MONTEREY BAY, CALIFORNIA (OCT 1976)
AUTHOR(S)→ OLIVER,J.S.; SLATTERY,P.N.
KEYWORDS→ DREDGING;ECOLOGY;FAUNA;MONTEREY BAY,CA;RECOLONIZATION RATES

TP 77-3 <SUBLETHAL EFFECTS OF SUSPENDED SEDIMENTS ON ESTUARINE FISH (FEB 1977)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.
KEYWORDS→ ECOLOGY;FISH;PATUXENT RIVER,MD

EROSION

CETA 79-2 <A METHOD FOR ESTIMATING LONG-TERM EROSION RATES FROM A LONG-TERM RISE IN WATER LEVEL (MAY 1979)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ EROSION;PROFILES;SEDIMENT TRANSPORT

CETA 80-2 <PLANTING GUIDELINES FOR SEAGRASSES (FEB 1980)
AUTHOR(S)→ PHILLIPS,R.C.
KEYWORDS→ EROSION;VEGETATION

CETA 81-10 <CRITICAL WAVE CONDITIONS FOR SAND MOTION INITIATION (JUL 1981)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ EROSION;SEDIMENT TRANSPORT

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MP 1-64 <CONCRETE BLOCK REVETMENT NEAR BENEDICT, MARYLAND (JAN 1964)
AUTHOR(S)→ HALL,J.V.,JR.; JACHOWSKI,R.A.
KEYWORDS→ ARMOR UNITS;BENEDICT,MD;CONCRETE BLOCKS;EROSION;PATUXENT RIVER,MD;REVETMENTS

MR 79-2 <BANK EROSION CONTROL WITH VEGETATION, SAN FRANCISCO BAY, CALIFORNIA (MAY 1979)
AUTHOR(S)→ GORBICS,C.S.; KNUTSON,P.L.; MORRIS,J.H.; NEWCOMBE,C.L.
KEYWORDS→ EROSION;MARSHES;SAN FRANCISCO BAY,CA; SAN PABLO BAY,CA;VEGETATION

MR 79-5 <BEACH CHANGES AT WESTHAMPTON BEACH, NEW YORK, 1962-73 (AUG 1979)
AUTHOR(S)→ DEWALL,A.E.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;EROSION; GROINS;PROFILES;WESTHAMPTON BEACH,NY

MR 80-2 <THE EFFECT OF STRUCTURES AND LAKE LEVEL ON BLUFF AND SHORE EROSION IN BERRIEN COUNTY, MICHIGAN, 1970-74 (APR 1980)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ BERRIEN COUNTY,MI;BLUFFS;EROSION, GREAT LAKES;LAKE MICHIGAN

MR 80-9 <BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY, 1962-73 (OCT 1980)
AUTHOR(S)→ AUBREY,D.G.; KARPEN,J.; MILLER,M.C.
KEYWORDS→ EROSION;GROINS;LONG BEACH ISLAND,NJ; PROFILES

MR 81-3 <BEACH CHANGES AT ATLANTIC CITY, NEW JERSEY (1962-73) (MAR 1981)
AUTHOR(S)→ MCCANN,D.P.
KEYWORDS→ ABSECON ISLAND,NJ;ATLANTIC CITY,NJ; BEACH EVALUATION PROGRAM-CERC;BEACH NOURISHMENT;EROSION;PROFILES

MR 83-5 <BEACH CHANGES AT HOLDEN BEACH, NORTH CAROLINA, 1970-74 (MAR 1983)
AUTHOR(S)→ MILLER,M.C.
KEYWORDS→ EROSION;HOLDEN BEACH,NC;PROFILES

R 1-67 <COASTAL PROCESSES AND BEACH EROSION (JAN 1967)
AUTHOR(S)→ CALDWELL,J.M.
KEYWORDS→ EROSION;SHORE PROCESSES

R 78-2 <DESIGNING FOR BANK EROSION CONTROL WITH VEGETATION (FEB 1978)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ EROSION;VEGETATION

R 79-11 <USES FOR A CALCULATED LIMIT DEPTH TO BEACH EROSION (NOV 1979)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ EROSION;SEDIMENT TRANSPORT;SHOALING

R 80-3 <SAND MOTION INITIATION BY WATER WAVES: TWO ASYMPTOTES (NOV 1980)
AUTHOR(S)→ HALLERMEIER,R.J.

KEYWORDS→ DRAG FORCES;EROSION;SEDIMENT TRANSPORT

R 83-15 <CAPE FORMATION AS A CAUSE OF EROSION ON ADJACENT SHORELINES (JUN 1983)
AUTHOR(S)→ FINKELSTEIN,K.
KEYWORDS→ ASSATEAGUE ISLAND,MD;CAPES;EROSION; GEOMORPHOLOGY

TP 76-7 <ANIMAL COLONIZATION OF MAN-INITIATED SALT MARSHES ON DREDGE SPOIL (JUN 1976)
AUTHOR(S)→ CAMMEN,L.M.; COPELAND,B.J.; SENECA,E.D.
KEYWORDS→ DREDGING;DRUM INLET,NC;EROSION;FAUNA; MARSHES;SNOWS CUT,NC;VEGETATION

TP 77-1 <BEACH CHANGES CAUSED BY THE ATLANTIC COAST STORM OF 17 DECEMBER 1970 (JAN 1977)
AUTHOR(S)→ DEWALL,A.E.; GALVIN,C.J.,JR.; PRITCHETT,P.C.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;CAPE COD,MA;EROSION;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;MISQUAMICUT,RI;PROFILES;TIDES; WESTHAMPTON BEACH,NY

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*EARTH RESOURCES TECHNOLOGY SATELLITE

MR 76-2 <AN ERTS-1 STUDY OF COASTAL FEATURES ON THE NORTH CAROLINA COAST (JAN 1976)
AUTHOR(S)→ BERG,D.W.; MILLER,G.H.
KEYWORDS→ ERTS;MULTISPECTRAL SCANNER;REMOTE SENSING;SATELLITES

R 5-73 <USE OF EARTH RESOURCES TECHNOLOGY SATELLITE (ERTS-1) IN COASTAL STUDIES (APR 1973)
AUTHOR(S)→ MAGOON,O.T.
KEYWORDS→ AERIAL PHOTOGRAPHY;ERTS;REMOTE SENSING

R 18-73 <COASTAL APPLICATIONS OF THE ERTS-A SATELLITE (JUL 1973)
AUTHOR(S)→ JARMAN,J.W.; MAGOON,O.T.; PIRIE,D.M.
KEYWORDS→ ERTS;REMOTE SENSING

R 3-74 <ON THE NEARSHORE CIRCULATION OF THE GULF OF CARPENTARIA, AUSTRALIA- A STUDY IN USES OF SATELLITE IMAGERY (ERTS) IN REMOTELY ACCESSIBLE AREAS (OCT 1974)
AUTHOR(S)→ RABCHEVSKY,G.A.; TELEKI,P.G.; WHITE,J.W.
KEYWORDS→ AUSTRALIA;ERTS;GULF OF CARPENTARIA; REMOTE SENSING

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MP 1-74 <BED FORM DEVELOPMENT AND DISTRIBUTION PATTERN, PARKER AND ESSEX ESTUARIES, MASSACHUSETTS (FEB

1974)
AUTHOR(S)→ BOOTHROYD,J.C.; HUBBARD,D.K.
KEYWORDS→ BED FORMS;ESSEX ESTUARY,MA;PARKER ESTUARY,MA

FALL VELOCITY

TP 77-4 <SEDIMENT SUSPENSION AND TURBULENCE IN AN OSCILLATING FLUME (APR 1977)
AUTHOR(S)→ MACDONALD,T.C.
KEYWORDS→ FALL VELOCITY;SEDIMENT TRANSPORT

FAST FOURIER TRANSFORM

TP 76-9 <STATISTICAL PROPERTIES OF FAST FOURIER TRANSFORM COEFFICIENTS COMPUTED FROM REAL-VALUED, COVARIANCE-STATIONARY, PERIOD RANDOM SEQUENCES (JUL 1976)
AUTHOR(S)→ BORGMAN,L.E.
KEYWORDS→ ANALYSIS,SPECTRAL;FAST FOURIER TRANSFORM;MATHEMATICAL MODELS;WAVE CLIMATOLOGY

TR 82-2 <NONRANDOM BEHAVIOR IN FIELD WAVE SPECTRA AND ITS EFFECT ON GROUPING OF HIGH WAVES (AUG 1982)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ANALYSIS,SPECTRAL;FAST FOURIER TRANSFORM;WAVE CLIMATOLOGY;WAVE GROUPING

FAUNA

MR 78-4 <EFFECTS OF BEACH REPLENISHMENT ON THE NEARSHORE SAND FAUNA AT IMPERIAL BEACH, CALIFORNIA (DEC 1978)
AUTHOR(S)→ DIENER,D.; LACY,S.; PARR,T.
KEYWORDS→ BEACH NOURISHMENT;FAUNA;IMPERIAL BEACH,CA

MR 80-1(II) <ECOLOGICAL EVALUATION OF A BEACH NOURISHMENT PROJECT AT HALLANDALE (BROWARD COUNTY), FLORIDA (MAR 1980)
AUTHOR(S)→ BOWEN,P.R.; COURTENAY,W.R.,JR.; DEIS,D.R.; MARSH,G.A.; TURBEVILLE,D.B.
KEYWORDS→ BEACH NOURISHMENT;FAUNA;GOLDEN BEACH,FL;HALLANDALE,FL

MR 82-1 <BENTHIC FAUNA OF AN OFFSHORE BORROW AREA IN BROWARD COUNTY, FLORIDA (JAN 1982)
AUTHOR(S)→ MARSH,G.A.; TURBEVILLE,D.B.
KEYWORDS→ BROWARD COUNTY,FL;DREDGING;ECOLOGY;FAUNA

MR 82-2 <LONG-TERM EFFECTS OF BEACH NOURISHMENT ON THE BENTHIC FAUNA OF PANAMA CITY,FLORIDA (JAN 1982)
AUTHOR(S)→ CULTER,J.K.; MANADEVAN,S.
KEYWORDS→ BEACH NOURISHMENT;FAUNA;PANAMA CITY BEACH,FL

MR 82-12 <LONG-TERM CHANGES IN BEACH FAUNA AT DUCK, NORTH CAROLINA (NOV 1982)
AUTHOR(S)→ DEALTERIS,J.T.; DIAZ,R.J.
KEYWORDS→ DUCK,NC;FAUNA;FIELD RESEARCH FACILITY-CERC

R 78-14 <ECOLOGICAL EFFECTS OF AN ARTIFICIAL ISLAND (NOV 1978)
AUTHOR(S)→ DEWIT,L.A.; HURME,A.K.; JOHNSON,G.F.; WALES,B.A.
KEYWORDS→ ARTIFICIAL ISLANDS;FAUNA;FISH;RINCON ISLAND,CA

TP 76-7 <ANIMAL COLONIZATION OF MAN-INITIATED SALT MARSHES ON DREDGE SPOIL (JUN 1976)
AUTHOR(S)→ CAMMEN,L.M.; COPELAND,B.J.; SENECA,E.D.
KEYWORDS→ DREDGING;DRUM INLET,NC;EROSION;FAUNA; MARSHES;SNOWS CUT,NC;VEGETATION

TP 76-14 <SAMPLING VARIATION IN SANDY BEACH LITTORAL AND NEARSHORE MEIOFAUNA AND MACROFAUNA (SEP 1976)
AUTHOR(S)→ COX,J.L.
KEYWORDS→ FAUNA;MONTEREY BAY,CA;SAMPLING ANALYSIS

TP 76-15 <EFFECTS OF DREDGING AND DISPOSAL ON SOME BENTHOS AT MONTEREY BAY, CALIFORNIA (OCT 1976)
AUTHOR(S)→ OLIVER,J.S.; SLATTERY,P.N.
KEYWORDS→ DREDGING;ECOLOGY;FAUNA;MONTEREY BAY,CA;RECOLONIZATION RATES

TP 76-20 <LETHAL EFFECTS OF SUSPENDED SEDIMENTS ON ESTUARINE FISH (DEC 1976)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.
KEYWORDS→ FAUNA;FISH;MINERAL SOLIDS;PATUXENT RIVER,MD;SEDIMENT TRANSPORT

FENCES,SAND

MP 1-70 <EXPERIMENTAL DUNES OF THE TEXAS COAST (JAN 1970)
AUTHOR(S)→ GAGE,B.O.
KEYWORDS→ BARRIER ISLANDS;CORPUS CHRISTI PASS,TX;DUNES;FENCES,SAND;GALVESTON ISLAND,TX;NORTH PADRE ISLAND,TX;PACKERY CHANNEL,TX;VEGETATION

MP 9-75 <CONSTRUCTION AND STABILIZATION OF COASTAL FOREDUNES WITH VEGETATION: PADRE ISLAND, TEXAS (SEP 1975)
AUTHOR(S)→ APPAN,S.G.; DAHL,B.E.; FALL,B.A.; LOHSE,A.
KEYWORDS→ FENCES,SAND;PADRE ISLAND,TX;VEGETATION

R 78-12 <PLANTING GUIDELINES FOR DUNE CREATION AND STABILIZATION (NOV 1978)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ DUNES;FENCES,SAND;VEGETATION

SR 3 <DUNE BUILDING AND STABILIZATION WITH VEGETATION (SEP 1978)
AUTHOR(S)→ WOODHOUSE,W.W.,JR.
KEYWORDS→ DUNES;FENCES,SAND;VEGETATION

TP 80-5 <EXPERIMENTAL DUNE RESTORATION AND STABILIZATION, NAUSET BEACH, CAPE COD, MASSACHUSETTS (AUG 1980)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ CAPE COD,MA;DUNES;FENCES,SAND;NAUSET BEACH,MA;VEGETATION

FERTILIZATION*

*SEE VEGETATION

FIELD RESEARCH FACILITY-CERC

MR 76-6 <VEGETATIVE STUDY AT THE DUCK FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (APR 1976)
AUTHOR(S)→ LEVY,G.F.
KEYWORDS→ DUCK,NC;DUNES;FIELD RESEARCH FACILITY-CERC;VEGETATION

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AUTHOR(S)→ MILLER,H.C.
KEYWORDS→ DATA COLLECTION;DUCK,NC;FIELD RESEARCH FACILITY-CERC

MR 83-4 <REEVALUATION OF VEGETATIONAL CHARACTERISTICS AT THE CERC FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (MAR 1983)
AUTHOR(S)→ HARRIS,R.L.; LEVY,G.F.; PERRY,J.E.

KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; VEGETATION

R 79-12 <THE COASTAL ENGINEERING RESEARCH CENTER'S FIELD RESEARCH FACILITY AT DUCK, NORTH CAROLINA (NOV 1979)
AUTHOR(S)→ MASON,C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; PIERS

R 81-1 <SEASAT DETECTION OF WAVES, CURRENTS AND INLET DISCHARGE (MAR 1981)
AUTHOR(S)→ LICHY,D.E.; MATTIE,M.G.
KEYWORDS→ CURRENTS;DUCK,NC;FIELD RESEARCH FACILITY-CERC;RADAR;SEASAT;SYNTHETIC APERTURE RADAR(SAR);TIDAL INLETS

R 83-13 <EFFECTS OF CERC RESEARCH PIER ON NEARSHORE PROCESSES (MAY 1983)
AUTHOR(S)→ BIRKEMEIER,W.A.; DEWALL,A.E.; MILLER,H.C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; SHORE PROCESSES

FILTERS

MR 76-7 <SURVEY OF COASTAL REVETMENT TYPES (MAY 1976)
AUTHOR(S)→ MCCARTNEY,B.L.
KEYWORDS→ FILTERS;REVETMENTS

FISH

MR 78-3 <ECOLOGICAL EFFECTS OF AN ARTIFICIAL ISLAND, RINCON ISLAND, PUNTA GORDA, CALIFORNIA (SEP 1978)
AUTHOR(S)→ DEWIT,L.A.; JOHNSON,G.F.
KEYWORDS→ ARMOR UNITS;ARTIFICIAL ISLANDS; ECOLOGY;FISH;RINCON ISLAND,CA

MR 80-1 (I) <ECOLOGICAL EVALUATION OF A BEACH NOURISHMENT PROJECT AT HALLANDALE (BROWARD COUNTY), FLORIDA (FEB 1980)
AUTHOR(S)→ COURTENAY,W.R.,JR.; HARTIG,B.C.; LOISEL,G.R.
KEYWORDS→ BEACH NOURISHMENT;BROWARD COUNTY,FL; ECOLOGY;FISH;HALLANDALE,FL

MR 81-5 <A STUDY OF THE INVERTEBRATES AND FISHES OF SALT MARSHES IN TWO OREGON ESTUARIES (JUN 1981)
AUTHOR(S)→ HIGLEY,D.L.; HOLTON,R.L.
KEYWORDS→ FISH;INVERTEBRATES;MARSHES;NETARTS BAY,OR;SILETZ BAY,OR

R 78-14 <ECOLOGICAL EFFECTS OF AN ARTIFICIAL ISLAND (NOV 1978)
AUTHOR(S)→ DEWIT,L.A.; HURME,A.K.; JOHNSON,G.F.; WALES,B.A.

KEYWORDS→ ARTIFICIAL ISLANDS;FAUNA;FISH;RINCON ISLAND,CA

TP 76-20 <LETHAL EFFECTS OF SUSPENDED SEDIMENTS ON ESTUARINE FISH (DEC 1976)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.
KEYWORDS→ FAUNA;FISH;MINERAL SOLIDS;PATUXENT RIVER,MD;SEDIMENT TRANSPORT

TP 77-3 <SUBLETHAL EFFECTS OF SUSPENDED SEDIMENTS ON ESTUARINE FISH (FEB 1977)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.
KEYWORDS→ ECOLOGY;FISH;PATUXENT RIVER,MD

FLASH FLOODS

CETA 78-1 <ACCELERATION AND IMPACT OF STRUCTURES MOVED BY TSUNAMIS OR FLASH FLOODS (FEB 1978)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ FLASH FLOODS;IMPACT FORCES;TSUNAMIS

FLOATING BREAKWATERS

CETA 79-4 <DETERMINATION OF MOORING LOAD AND TRANSMITTED WAVE HEIGHT FOR A FLOATING TIRE BREAKWATER (SEP 1979)
AUTHOR(S)→ ECKERT,J.W.; GILES,M.L.
KEYWORDS→ BREAKWATERS;FLOATING BREAKWATERS; MOORING FORCES;TRANSMISSION,WAVE;WAVE CLIMATOLOGY

MR 82-4 <FIELD EXPERIENCES WITH FLOATING BREAKWATERS IN THE EASTERN UNITED STATES (JUL 1982)
AUTHOR(S)→ BAIRD,A.V.; ROSS,N.W.
KEYWORDS→ FLOATING BREAKWATERS

MR 82-5 <FLOATING BREAKWATER FIELD EXPERIMENT,WEST COAST (JUL 1982)
AUTHOR(S)→ RICHEY,E.P.
KEYWORDS→ FLOATING BREAKWATERS

TP 76-17 <FLOATING BREAKWATER FIELD ASSESSMENT PROGRAM, FRIDAY HARBOR, WASHINGTON (OCT 1976)
AUTHOR(S)→ ADEE,B.H.; CHRISTENSEN,D.R.; RICHEY,E.P.
KEYWORDS→ ATTENUATION,WAVE;BREAKWATERS;FLOATING BREAKWATERS;FRIDAY HARBOR,WA;REFLECTION,WAVE; TRANSMISSION,WAVE

TP 78-3 <PROTOTYPE SCALE MOORING LOAD AND TRANSMISSION TESTS FOR A FLOATING BREAKWATER (APR 1978)
AUTHOR(S)→ GILES,M.L.; SORENSEN,R.M.
KEYWORDS→ ATTENUATION,WAVE;BREAKWATERS;FLOATING BREAKWATERS;MOORING FORCES;TIRES; TRANSMISSION,WAVE

TP 82-4 <WAVE TRANSMISSION AND MOORING-FORCE CHARACTERISTICS OF PIPE-TIRE FLOATING BREAKWATERS (OCT 1982)
AUTHOR(S)→ HARMS,V.W.; MCTAMANY,J.E.; SORENSEN,R.M.; WESTERINK,J.J.
KEYWORDS→ FLOATING BREAKWATERS;MOORING FORCES; TIRES;TRANSMISSION,WAVE

TR 81-1 <FLOATING BREAKWATERS: STATE-OF-THE-ART LITERATURE REVIEW(OCT 1981)
AUTHOR(S)→ HALES,L.Z.
KEYWORDS→ FLOATING BREAKWATERS

FLUID FLOW

R 20-73 <AN INTRODUCTION TO OCEANIC WATER MOTIONS AND THEIR RELATION TO SEDIMENT TRANSPORT (1973)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ FLUID FLOW;SEDIMENT TRANSPORT

FORT FISHER,NC

MR 81-6 <ANALYSIS OF COASTAL SEDIMENT TRANSPORT PROCESSES FROM WRIGHTSVILLE BEACH TO FORT FISHER, NORTH CAROLINA (JUN 1981)
AUTHOR(S)→ CHOU,I.B.; CRANE,J.D.; POWELL,G.M.; WINTON,T.C.
KEYWORDS→ BEACH NOURISHMENT;BUDGET,SEDIMENT; CAROLINA BEACH,NC;FORT FISHER,NC; WRIGHTSVILLE,NC

FREEPORT HARBOR,TX

MR 81-1 <HYDRAULICS AND STABILITY OF FIVE TEXAS INLETS (JAN 1981)
AUTHOR(S)→ MASON,C.
KEYWORDS→ FREEPORT HARBOR,TX;GALVESTON BAY,TX; ROLLOVER PASS,TX;SABINE PASS,TX;SAN LUIS PASS,TX;TIDAL INLETS

FRICTION FACTOR

MR 76-5 <REFLECTION AND TRANSMISSION CHARACTERISTICS OF POROUS RUBBLE-MOUND BREAKWATERS (MAR 1976)
AUTHOR(S)→ MADSEN,O.S.; WHITE,S.M.
KEYWORDS→ BREAKWATERS;FRICTION FACTOR; REFLECTION,WAVE;TRANSMISSION,WAVE

R 79-13 <SAND BED FRICTION FACTORS FOR OSCILLATORY FLOWS (NOV 1979)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ BED FORMS;FRICTION FACTOR;SEDIMENT

TRANSPORT;SHEAR STRESSES

FRIDAY HARBOR,WA

TP 76-17 <FLOATING BREAKWATER FIELD ASSESSMENT PROGRAM, FRIDAY HARBOR, WASHINGTON (OCT 1976)
AUTHOR(S)→ ADEE,B.H.; CHRISTENSEN,D.R.; RICHEY,E.P.
KEYWORDS→ ATTENUATION,WAVE;BREAKWATERS;FLOATING BREAKWATERS;FRIDAY HARBOR,WA;REFLECTION,WAVE; TRANSMISSION,WAVE

GAGES,WAVE

CETA 80-5 <INTERPRETATION OF WAVE ENERGY SPECTRA (JUL 1980)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ANALYSIS,SPECTRAL;GAGES,WAVE;WAVE CLIMATOLOGY

MP 1-67 <THE WAVE RECORD PROGRAM AT CERC (JAN 1967)
AUTHOR(S)→ DARLING,J.M.; DUMM,D.G.
KEYWORDS→ GAGES,WAVE;WAVE CHARACTERISTICS

MP 12-75 <WAVE RUNUP ON A 1 ON 10 SLOPE (DEC 1975)
AUTHOR(S)→ AHRENS,J.P.
KEYWORDS→ GAGES,WAVE;RUNUP,WAVE

MR 76-11 <MEASUREMENT TECHNIQUES FOR COASTAL WAVES AND CURRENTS (NOV 1976)
AUTHOR(S)→ MUSIALOWSKI,F.R.; PRINS,D.A.; TELEKI,P.G.
KEYWORDS→ CURRENT METERS;DYE TRACERS;GAGES,WAVE; INSTRUMENTATION;SEA SLED

MR 82-11 <THE DESIGN,DEVELOPMENT, AND EVALUATION OF A DIFFERENTIAL PRESSURE GAUGE DIRECTIONAL WAVE MONITOR (OCT 1982)
AUTHOR(S)→ BODGE,K.R.
KEYWORDS→ ANALYSIS,SPECTRAL;GAGES,WAVE; INSTRUMENTATION;WAVE CHARACTERISTICS

R 1-66 <AN OCEAN WAVE DIRECTION GAGE (FEB 1966)
AUTHOR(S)→ WILLIAMS,L.C.
KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

R 1-71 <THE ANALYSIS OF WAVE RECORDS (SEP 1971)
AUTHOR(S)→ HARRIS,D.L.
KEYWORDS→ GAGES,WAVE;WAVE CLIMATOLOGY

R 2-71 <COMPARISON OF PRESSURE AND STAFF WAVE GAGE RECORDS (SEP 1971)
AUTHOR(S)→ ESTEVA,D.C.; HARRIS,D.L.
KEYWORDS→ GAGES,WAVE;WAVE CLIMATOLOGY

R 5-74 <CERC FIELD WAVE GAGING PROGRAM (SEP 1974)
AUTHOR(S)→ PEACOCK,H.G.
KEYWORDS→ GAGES,WAVE

R 8-74 <DEVELOPEMENT OF A SHALLOW-WATER WAVE DIRECTION GAGE (SEP 1974)
AUTHOR(S)→ HALLERMEIER,R.J.; JAMES,W.R.

KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

R 77-3 <NEARSHORE WAVE DIRECTION GAGE (APR 1977)
AUTHOR(S)→ HALLERMEIER,R.J.; JAMES,W.R.
KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

R 81-5 <WAVE DIRECTION MEASURED BY FOUR DIFFERENT SYSTEMS (SEP 1981)
AUTHOR(S)→ EVANS,D.D.; HSIAO,S.V.; MATTIE,M.G.
KEYWORDS→ AERIAL PHOTOGRAPHY;GAGES,WAVE;MISSION BEACH,CA;RADAR;SYNTHETIC APERTURE RADAR(SAR)

TM 21 <A MULTI-PURPOSE DATA ACQUISITION SYSTEM FOR INSTRUMENTATION OF THE NEARSHORE ENVIRONMENT (AUG 1967)
AUTHOR(S)→ INMAN,D.L.; KOONTZ,W.A.
KEYWORDS→ CURRENT METERS;GAGES,WAVE;SEDIMENT TRANSPORT

TM 30 <CERC WAVE GAGES (DEC 1969)
AUTHOR(S)→ WILLIAMS,L.C.
KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

TP 76-5 <WAVE CLIMATE AT TORREY PINES BEACH, CALIFORNIA (MAY 1976)
AUTHOR(S)→ HOLMES,L.; INMAN,D.L.; LOWE,R.L.; PAWKA,S.S.
KEYWORDS→ GAGES,WAVE;TORREY PINES BEACH,CA;WAVE CLIMATOLOGY

TP 77-7 <EVALUATION OF THE COMPUTATION OF WAVE DIRECTION WITH THREE-GAGE ARRAYS (JUL 1977)
AUTHOR(S)→ ESTEVA,D.C.
KEYWORDS→ GAGES,WAVE;PT. MUGU,CA

TP 80-2 <ENERGY SPECTRA IN SHALLOW U.S. COASTAL WATERS (FEB 1980)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ANALYSIS,SPECTRAL;GAGES,WAVE;WAVE CHARACTERISTICS

TR 77-1 <WAVE CLIMATE AT SELECTED LOCATIONS ALONG U.S. COASTS (JAN 1977)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ATLANTIC COAST;GAGES,WAVE;GULF COAST;PACIFIC COAST;WAVE CLIMATOLOGY

GALVESTON BAY,TX

MP 6-75 <ESTABLISHMENT OF VEGETATION FOR SHORELINE STABILIZATION IN GALVESTON BAY (APR 1975)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ GALVESTON BAY,TX;VEGETATION

MR 81-1 <HYDRAULICS AND STABILITY OF FIVE TEXAS INLETS (JAN 1981)
AUTHOR(S)→ MASON,C.
KEYWORDS→ FREEPORT HARBOR,TX;GALVESTON BAY,TX;ROLLOVER PASS,TX;SABINE PASS,TX;SAN LUIS PASS,TX;TIDAL INLETS

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GALVESTON COUNTY,TX

MR 79-4 <SEDIMENT DISTRIBUTION, SAND RESOURCES, AND GEOLOGIC CHARACTER OF THE INNER CONTINENTAL SHELF OFF GALVESTON COUNTY, TEXAS (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GALVESTON COUNTY,TX;GEOMORPHOLOGY; ICONS;SEISMIC REFLECTION

GALVESTON ISLAND,TX

MP 1-70 <EXPERIMENTAL DUNES OF THE TEXAS COAST (JAN 1970)
AUTHOR(S)→ GAGE,B.O.
KEYWORDS→ BARRIER ISLANDS;CORPUS CHRISTI PASS,TX;DUNES;FENCES,SAND;GALVESTON ISLAND,TX;NORTH PADRE ISLAND,TX;PACKERY CHANNEL,TX;VEGETATION

GAUSSIAN DISTRIBUTION

R 80-1 <SHALLOW WATER SURFACE WAVE ELEVATION DISTRIBUTIONS (JUN 1980)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ GAUSSIAN DISTRIBUTION;WAVE CHARACTERISTICS;WAVE CLIMATOLOGY

GEOMORPHOLOGY

MP 1-66 <INTERAGENCY CONFERENCE ON CONTINENTAL SHELF RESEARCH (JAN 1966)
AUTHOR(S)→ TANEY,N.E.
KEYWORDS→ CONTINENTAL SHELF;GEOMORPHOLOGY; SEDIMENT TRANSPORT

MR 79-3 <SAND RESOURCES OF SOUTHEASTERN LAKE MICHIGAN (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;LAKE MICHIGAN; SEISMIC REFLECTION

MR 79-4 <SEDIMENT DISTRIBUTION, SAND RESOURCES, AND GEOLOGIC CHARACTER OF THE INNER CONTINENTAL SHELF OFF GALVESTON COUNTY, TEXAS (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GALVESTON COUNTY,TX;GEOMORPHOLOGY; ICONS;SEISMIC REFLECTION

MR 80-4 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OF THE CAPE MAY REGION, NEW JERSEY(JUL 1 980)

KEYWORD INDEX

AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CAPE MAY,NJ;GEOMORPHOLOGY;ICONS;INNER CONTINENTAL SHELF;SEISMIC REFLECTION

MR 80-10 <SAND RESOURCES OF SOUTHERN LAKE ERIE, CONNEAUT TO TOLEDO, OHIO - A SEISMIC REFLECTION AND VIBRACORE STUDY (NOV 1980)
AUTHOR(S)→ CARTER,C.H.; FULLER,J.A.; MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;GEOMORPHOLOGY;ICONS; LAKE ERIE;SEISMIC REFLECTION

MR 82-10 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OFF THE CENTRAL NEW JERSEY COAST (OCT 1982)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;NEW JERSEY; SEISMIC REFLECTION

MR 82-15 <REGIONAL GEOLOGY OF THE SOUTHERN LAKE ERIE (OHIO) BOTTOM: A SEISMIC REFELCTION AND VIBRACORE STUDY (DEC 1982)
AUTHOR(S)→ CARTER,C.H.; FULLER,J.A.; MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;GEOMORPHOLOGY;ICONS; LAKE ERIE

R 3-72 <REGIONAL SHELF STUDIES, A GUIDE TO ENGINEERING DESIGN (SEP 1972)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ COASTAL STRUCTURES;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS

R 79-1 <GEOLOGIC EFFECTS OF OCEAN DUMPING ON THE NEW YORK BIGHT INNER SHELF (MAR 1979)
AUTHOR(S)→ WILLIAMS,S.J.
KEYWORDS→ DREDGING;GEOMORPHOLOGY;NEW YORK BIGHT; SEISMIC REFLECTION

R 79-7 <UPPER QUATERNARY PEAT DEPOSITS ON THE ATLANTIC INNER SHELF OF THE UNITED STATES (SEP 1979)
AUTHOR(S)→ FIELD,M.E.; MEISBURGER,E.P.; STANLEY,E.A.; WILLIAMS,S.J.
KEYWORDS→ ATLANTIC COAST;GEOMORPHOLOGY;INNER CONTINENTAL SHELF;PEAT DEPOSITS;RADIOCARBON DATES

R 83-15 <CAPE FORMATION AS A CAUSE OF EROSION ON ADJACENT SHORELINES (JUN 1983)
AUTHOR(S)→ FINKELSTEIN,K.
KEYWORDS→ ASSATEAGUE ISLAND,MD;CAPES;EROSION; GEOMORPHOLOGY

TM 29 <GEOMORPHOLOGY AND SEDIMENTS OF THE NEARSHORE CONTINENTAL SHELF, MIAMI TO PALM BEACH, FLORIDA (NOV 1969)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS;MIAMI,FL;PALM BEACH,FL; SEISMIC REFLECTION

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TM 34 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER CONTINENTAL SHELF, PALM BEACH TO CAPE KENNEDY, FLORIDA (FEB 1971)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CAPE KENNEDY,FL;GEOMORPHOLOGY;ICONS; PALM BEACH,FL;SEISMIC REFLECTION

TM 38 <GEOMORPHOLOGY AND SEDIMENTS OF THE CHESAPEAKE BAY ENTRANCE (JUN 1972)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CHESAPEAKE BAY; GEOMORPHOLOGY;ICONS;SEISMIC REFLECTION

TM 40 <PLEISTOCENE-HOLOCENE SEDIMENTS INTERPRETED BY SEISMIC REFRACTION AND WASH-BORE SAMPLING, PLUM ISLAND-CASTLE NECK, MASSACHUSETTS (JUL 1973)
AUTHOR(S)→ RHODES,E.G.
KEYWORDS→ GEOMORPHOLOGY;PLUM ISLAND,MA;SEISMIC REFLECTION

TM 42 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER CONTINENTAL SHELF, CAPE CANAVERAL, FLORIDA (MAR 1974)
AUTHOR(S)→ DUANE,D.B.; FIELD,M.E.
KEYWORDS→ BEACH NOURISHMENT;CAPE CANAVERAL,FL; GEOMORPHOLOGY;ICONS

TM 45 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER NEW YORK BIGHT CONTINENTAL SHELF (JUL 1974)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS;NEW YORK BIGHT

TM 49 <ANALYSIS AND INTERPRETATION OF LITTORAL ENVIRONMENT OBSERVATION (LEO) AND PROFILE DATA ALONG THE WESTERN PANHANDLE COAST OF FLORIDA (MAR 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ AERIAL PHOTOGRAPHY;CURRENTS; GEOMORPHOLOGY;LEO;PROFILES;STORMS

TM 54 <GEOMORPHOLOGY, SHALLOW STRUCTURE, AND SEDIMENTS OF THE FLORIDA INNER CONTINENTAL SHELF, CAPE CANAVERAL TO GEORGIA (JUL 1975)
AUTHOR(S)→ FIELD,M.E.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS; SEISMIC REFLECTION

TM 58 <SURF OBSERVATIONS AND LONGSHORE CURRENT PREDICTION (NOV 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ CURRENTS;GEOMORPHOLOGY;LEO;PROFILES; PT. MUGU,CA

TP 76-2 <GEOMORPHOLOGY, SHALLOW SUBBOTTOM STRUCTURE, AND SEDIMENTS OF THE ATLANTIC INNER CONTINENTAL SHELF OFF LONG ISLAND, NEW YORK (MAR 1976)
AUTHOR(S)→ WILLIAMS,S.J.

AUTHOR(S)→ BOWEN,P.R.; COURTENAY,W.R.,JR.; DEIS,D.R.; MARSH,G.A.; TURBEVILLE,D.B.
KEYWORDS→ BEACH NOURISHMENT;FAUNA;GOLDEN BEACH,FL;HALLANDALE,FL

GREAT LAKES

CETA 81-4 <PREDICTING ADJUSTMENTS IN SHORE AND OFFSHORE SAND PROFILES ON THE GREAT LAKES (JAN 1981)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN; PROFILES

MP 1-75 <A PRIMER OF BASIC CONCEPTS OF LAKESHORE PROCESSES (JAN 1975)
AUTHOR(S)→ BRUNO,R.O.; DUANE,D.B.; HANDS,E.B.; HARRIS,D.L.
KEYWORDS→ BIBLIOGRAPHIES;GREAT LAKES;LAKESHORE PROCESSES

MP 2-75 <GUIDELINES FOR MONITORING SHORE PROTECTION STRUCTURES IN THE GREAT LAKES (FEB 1975)
AUTHOR(S)→ CERC STAFF
KEYWORDS→ GREAT LAKES;MONITORING GUIDELINES

MP 7-75 <EVALUATION OF POTENTIAL USE OF VEGETATION FOR EROSION ABATEMENT ALONG THE GREAT LAKES SHORELINE (JUN 1975)
AUTHOR(S)→ HALL,V.L.; LUDWIG,J.D.
KEYWORDS→ GREAT LAKES;VEGETATION

MR 80-2 <THE EFFECT OF STRUCTURES AND LAKE LEVEL ON BLUFF AND SHORE EROSION IN BERRIEN COUNTY, MICHIGAN, 1970-74 (APR 1980)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ BERRIEN COUNTY,MI;BLUFFS;EROSION; GREAT LAKES;LAKE MICHIGAN

MR 80-6 <A NUMERICAL MODEL FOR PREDICTING SHORELINE CHANGES (JUL 1980)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ CURRENTS;DIFFRACTION,WAVE;GREAT LAKES; HOLLAND HARBOR,MI;MATHEMATICAL MODELS; REFRACTION,WAVE;SHORE PROCESSES

R 3-66 <FACTORS AFFECTING BEACH NOURISHMENT REQUIREMENTS,PRESQUE ISLE PENINSULA, ERIE PENNSYLVANIA (FEB 1966)
AUTHOR(S)→ BERG,D.W.
KEYWORDS→ BEACH NOURISHMENT;GREAT LAKES;LAKE ERIE;PRESQUE ISLE,PA

TP 77-8 <HYDRAULICS OF GREAT LAKES INLETS (JUL 1977)
AUTHOR(S)→ SEELIG,W.N.; SORENSEN,R.M.
KEYWORDS→ GREAT LAKES;INLETS;PENTWATER HARBOR,MI;SEICHING

TP 79-4 <CHANGES IN RATES OF SHORE RETREAT, LAKE MICHIGAN, 1967-76 (DEC 1979)
AUTHOR(S)→ HANDS,E.B.

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SEDIMENT TRANSPORT

GULF COAST

TP 78-4 <GEOMETRY OF PROFILES ACROSS INNER CONTINENTAL SHELVES OF THE ATLANTIC AND GULF COAST OF THE UNITED STATES (APR 1978)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ ATLANTIC COAST;BEACH EVALUATION PROGRAM-CERC;GULF COAST;INNER CONTINENTAL SHELF;PROFILES

TR 77-1 <WAVE CLIMATE AT SELECTED LOCATIONS ALONG U.S. COASTS (JAN 1977)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ATLANTIC COAST;GAGES,WAVE;GULF COAST; PACIFIC COAST;WAVE CLIMATOLOGY

GULF OF CARPENTARIA

R 3-74 <ON THE NEARSHORE CIRCULATION OF THE GULF OF CARPENTARIA, AUSTRALIA- A STUDY IN USES OF SATELLITE IMAGERY (ERTS) IN REMOTELY ACCESSIBLE AREAS (OCT 1974)
AUTHOR(S)→ RABCHEVSKY,G.A.; TELEKI,P.G.; WHITE,J.W.
KEYWORDS→ AUSTRALIA;ERTS;GULF OF CARPENTARIA; REMOTE SENSING

GULF OF MEXICO

TM 15 <ANALYSIS OF WAVE FORCES ON A 30-INCH-DIAMETER PILE UNDER CONFUSED SEA CONDITIONS (OCT 1965)
AUTHOR(S)→ WILSON,B.W.
KEYWORDS→ GULF OF MEXICO;PILES;WAVE FORCES

TP 76-10 <THE STATISTICAL ANATOMY OF OCEAN WAVE SPECTRA (JUL 1976)
AUTHOR(S)→ BORGMAN,L.E.
KEYWORDS→ ANALYSIS,SPECTRAL;GULF OF MEXICO; HURRICANES;WAVE CLIMATOLOGY

HALLANDALE,FL

MR 80-1 (I) <ECOLOGICAL EVALUATION OF A BEACH NOURISHMENT PROJECT AT HALLANDALE (BROWARD COUNTY), FLORIDA (FEB 1980)
AUTHOR(S)→ COURTENAY,W.R.,JR.; HARTIG,B.C.; LOISEL,G.R.
KEYWORDS→ BEACH NOURISHMENT;BROWARD COUNTY,FL; ECOLOGY;FISH;HALLANDALE,FL

MR 80-1(II) <ECOLOGICAL EVALUATION OF A BEACH NOURISHMENT PROJECT AT HALLANDALE (BROWARD COUNTY), FLORIDA (MAR 1980)

CALCULATION OF WAVE REFRACTION (OCT 1964)
AUTHOR(S)→ HARRISON,W.; WILSON,W.S.
KEYWORDS→ HINDCASTING;REFRACTION,WAVE;VIRGINIA BEACH,VA

TR 78-1 <AN EVALUATION OF TWO GREAT LAKES WAVE MODELS (OCT 1978)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ HINDCASTING;MATHEMATICAL MODELS;WAVE CLIMATOLOGY

HISTORIES

MR 77-9 <THE HISTORY OF THE BEACH EROSION BOARD, U.S. ARMY, CORPS OF ENGINEERS, 1930-63 (AUG 1977)
AUTHOR(S)→ QUINN,M.L.
KEYWORDS→ BEACH EROSION BOARD;HISTORIES

HOLDEN BEACH,NC

MR 83-5 <BEACH CHANGES AT HOLDEN BEACH, NORTH CAROLINA, 1970-74 (MAR 1983)
AUTHOR(S)→ MILLER,M.C.
KEYWORDS→ EROSION;HOLDEN BEACH,NC;PROFILES

HOLLAND HARBOR,MI

MR 80-6 <A NUMERICAL MODEL FOR PREDICTING SHORELINE CHANGES (JUL 1980)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ CURRENTS;DIFFRACTION,WAVE;GREAT LAKES; HOLLAND HARBOR,MI;MATHEMATICAL MODELS; REFRACTION,WAVE;SHORE PROCESSES

HOLLYWOOD,FL

R 78-4 <BEACH AND NEARSHORE PROCESSES IN SOUTHEASTERN FLORIDA (FEB 1978)
AUTHOR(S)→ DEWALL,A.E.; RICHTER,J.J.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;HOLLYWOOD,FL;JUPITER,FL;LEO; PROFILES;SEDIMENT TRANSPORT

TP 77-10 <LITTORAL ENVIRONMENT OBSERVATIONS AND BEACH CHANGES ALONG THE SOUTHEAST FLORIDA COAST (OCT 1977)
AUTHOR(S)→ DEWALL,A.E.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;CURRENTS;HOLLYWOOD,FL;JUPITER,FL; LEO;PROFILES;WAVE CLIMATOLOGY

AUTHOR(S)→ MONROE,F.F.
KEYWORDS→ HYDRAULIC MODELS;OOLITIC ARAGONITE;
QUARTZ SAND

R 3-75 <LABORATORY EFFECTS IN COASTAL MOVABLE-BED
MODELS (DEC 1975)
AUTHOR(S)→ CHESNUTT,C.B.
KEYWORDS→ HYDRAULIC MODELS;MOVABLE-BED MODELING

SR-5 <COASTAL HYDRAULIC MODELS (MAY 1979)
AUTHOR(S)→ CHATHAM,C.E.,JR.; HALES,L.Z.;
HERRMANN,F.A.,JR.; HUDSON,R.Y.;
KEULEGAN,G.H.; SAGER,R.A.; WHALIN,R.W.
KEYWORDS→ HYDRAULIC MODELS;MOVABLE-BED MODELING

TM 23 <A MODEL STUDY OF THE ENTRANCE CHANNEL, DEPOE
BAY, OREGON (SEP 1967)
AUTHOR(S)→ AHRENS,J.P.
KEYWORDS→ DEPOE BAY,OR;HARBORS;HYDRAULIC MODELS

TM 37 <RIPRAP STABILITY ON EARTH EMBANKMENTS TESTED IN
LARGE-AND SMALL-SCALE WAVE TANKS (JUN 1972)
AUTHOR(S)→ HARRISON,A.S.; THOMSEN,A.L.;
WOHLT,P.E.
KEYWORDS→ ARMOR UNITS;HYDRAULIC MODELS;
QUARRYSTONE;RIPRAP;TRIBARS

TM 51 <LARGE WAVE TANK TESTS OF RIPRAP STABILITY (MAY
1975)
AUTHOR(S)→ AHRENS,J.P.
KEYWORDS→ HYDRAULIC MODELS;RIPRAP

TM 55 <STABILITY OF GOBI BLOCK REVETMENT TO WAVE
ATTACK (OCT 1975)
AUTHOR(S)→ AHRENS,J.P.; MCCARTNEY,B.L.
KEYWORDS→ ARMOR UNITS;GOBI BLOCKS;HYDRAULIC
MODELS;REVETMENTS

TM 62 <AN EFFECT OF PERMEABILITY ON SAND TRANSPORT BY
WAVES (DEC 1975)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ HYDRAULIC MODELS;PERMEABILITY;RIPPLES;
SEDIMENT TRANSPORT

HYDROGRAPHIC SURVEYS*

*SEE SURVEYING

HYPERION BEACH,CA

MP 4-74 <HYDRAULIC METHOD USED FOR MOVING SAND AT
HYPERION BEACH EROSION PROJECT, EL SEGUNDO,
CALIFORNIA (JUN 1974)
AUTHOR(S)→ HURD,J.
KEYWORDS→ BEACH NOURISHMENT;HYPERION BEACH,CA

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ICONS

*INNER CONTINENTAL SHELF SEDIMENT/STRUCTURE STUDY

CETA 80-4 <DATA COLLECTION METHODS FOR SAND INVENTORY-TYPE SURVEYS (MAR 1980)
AUTHOR(S)→ PRINS,D.A.
KEYWORDS→ CONTINENTAL SHELF;DATA COLLECTION;ICONS

CETA 81-9 <USE OF VIBRATORY CORING SAMPLERS FOR SEDIMENT SURVEYS (JUL 1981)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;ICONS

MR 77-11 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OF THE CAPE FEAR REGION, NORTH CAROLINA (DEC 1977)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ ICONS;SEISMIC REFLECTION

MR 79-3 <SAND RESOURCES OF SOUTHEASTERN LAKE MICHIGAN (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;LAKE MICHIGAN; SEISMIC REFLECTION

MR 79-4 <SEDIMENT DISTRIBUTION, SAND RESOURCES, AND GEOLOGIC CHARACTER OF THE INNER CONTINENTAL SHELF OFF GALVESTON COUNTY, TEXAS (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GALVESTON COUNTY,TX;GEOMORPHOLOGY; ICONS;SEISMI :EFLECTION

MR 80-4 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OF THE CAPE MAY REGION, NEW JERSEY(JUL 1 980)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CAPE MAY,NJ;GEOMORPHOLOGY;ICONS;INNER CONTINENTAL SHELF;SEISMIC REFLECTION

MR 80-10 <SAND RESOURCES OF SOUTHERN LAKE ERIE, CONNEAUT TO TOLEDO, OHIO - A SEISMIC REFLECTION AND VIBRACORE STUDY (NOV 1980)
AUTHOR(S)→ CARTER,C.H.; FULLER,J.A.; MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;GEOMORPHOLOGY;ICONS; LAKE ERIE;SEISMIC REFLECTION

MR 82-10 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OFF THE CENTRAL NEW JERSEY COAST (OCT 1982)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;NEW JERSEY; SEISMIC REFLECTION

MR 82-15 <REGIONAL GEOLOGY OF THE SOUTHERN LAKE ERIE (OHIO) BOTTOM: A SEISMIC REFELCTION AND VIBRACORE STUDY (DEC 1982)
AUTHOR(S)→ CARTER,C.H.; FULLER,J.A.;

KEYWORD INDEX

MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;GEOMORPHOLOGY;ICONS;
LAKE ERIE

R 1-70 <SHALLOW STRUCTURAL CHARACTERISTICS OF FLORIDA ATLANTIC SHELF AS REVEALED BY SEISMIC REFLECTION PROFILES (OCT 1970)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CONTINENTAL SHELF;ICONS;SEISMIC REFLECTION

R 2-70 <SAND INVENTORY PROGRAM (OCT 1970)
AUTHOR(S)→ DUANE,D.B.
KEYWORDS→ ICONS

R 3-72 <REGIONAL SHELF STUDIES, A GUIDE TO ENGINEERING DESIGN (SEP 1972)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ COASTAL STRUCTURES;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS

R 24-73 <ONSHORE TRANSPORTATION OF CONTINENTAL SHELF SEDIMENT: ATLANTIC SOUTHEASTERN UNITED STATES (1973)
AUTHOR(S)→ FIELD,M.E.; PILKEY,O.H.
KEYWORDS→ CONTINENTAL SHELF;ICONS;SEDIMENT TRANSPORT

TM 29 <GEOMORPHOLOGY AND SEDIMENTS OF THE NEARSHORE CONTINENTAL SHELF, MIAMI TO PALM BEACH, FLORIDA (NOV 1969)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS;MIAMI,FL;PALM BEACH,FL; SEISMIC REFLECTION

TM 34 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER CONTINENTAL SHELF, PALM BEACH TO CAPE KENNEDY, FLORIDA (FEB 1971)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CAPE KENNEDY,FL;GEOMORPHOLOGY;ICONS; PALM BEACH,FL;SEISMIC REFLECTION

TM 38 <GEOMORPHOLOGY AND SEDIMENTS OF THE CHESAPEAKE BAY ENTRANCE (JUN 1972)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CHESAPEAKE BAY; GEOMORPHOLOGY;ICONS;SEISMIC REFLECTION

TM 42 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER CONTINENTAL SHELF, CAPE CANAVERAL, FLORIDA (MAR 1974)
AUTHOR(S)→ DUANE,D.B.; FIELD,M.E.
KEYWORDS→ BEACH NOURISHMENT;CAPE CANAVERAL,FL; GEOMORPHOLOGY;ICONS

TM 45 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER NEW YORK BIGHT CONTINENTAL SHELF (JUL 1974)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF;

GEOMORPHOLOGY;ICONS;NEW YORK BIGHT

TM 54 <GEOMORPHOLOGY, SHALLOW STRUCTURE, AND SEDIMENTS OF THE FLORIDA INNER CONTINENTAL SHELF, CAPE CANAVERAL TO GEORGIA (JUL 1975)
AUTHOR(S)→ FIELD,M.E.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS; SEISMIC REFLECTION

TP 76-2 <GEOMORPHOLOGY, SHALLOW SUBBOTTOM STRUCTURE, AND SEDIMENTS OF THE ATLANTIC INNER CONTINENTAL SHELF OFF LONG ISLAND, NEW YORK (MAR 1976)
AUTHOR(S)→ WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS; LONG ISLAND,NY;SEISMIC REFLECTION

TP 76-3 <GEOMORPHOLOGY AND SEDIMENTS OF WESTERN MASSACHUSETTS BAY (APR 1976)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS; MASSACHUSETTS BAY;SEISMIC REFLECTION

TP 79-2 <SEDIMENTS, SHALLOW SUBBOTTOM STRUCTURE, AND SAND RESOURCES OF THE INNER CONTINENTAL SHELF, CENTRAL DELMARVA PENINSULA (JUN 1979)
AUTHOR(S)→ FIELD,M.E.
KEYWORDS→ DELMARVA PENINSULA;GEOMORPHOLOGY; ICONS;INNER CONTINENTAL SHELF;SEISMIC REFLECTION

TP 79-3 <RECONNAISSANCE GEOLOGY OF THE INNER CONTINENTAL SHELF, CAPE FEAR REGION, NORTH CAROLINA (SEP 1979)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CAPE FEAR,NC;ICONS; INNER CONTINENTAL SHELF

TP 81-3 <SAND RESOURCES AND GEOLOGICAL CHARACTER OF LONG ISLAND SOUND (MAY 1981)
AUTHOR(S)→ WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS; LONG ISLAND SOUND

IMPACT FORCES

CETA 78-1 <ACCELERATION AND IMPACT OF STRUCTURES MOVED BY TSUNAMIS OR FLASH FLOODS (FEB 1978)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ FLASH FLOODS;IMPACT FORCES;TSUNAMIS

IMPERIAL BEACH,CA

MR 78-4 <EFFECTS OF BEACH REPLENISHMENT ON THE NEARSHORE SAND FAUNA AT IMPERIAL BEACH, CALIFORNIA (DEC 1978)
AUTHOR(S)→ DIENER,D.; LACY,S.; PARR,T.
KEYWORDS→ BEACH NOURISHMENT;FAUNA;IMPERIAL

INLETS

*SEE ALSO TIDAL INLETS

TP 77-8 <HYDRAULICS OF GREAT LAKES INLETS (JUL 1977)
AUTHOR(S)→ SEELIG,W.N.; SORENSEN,R.M.
KEYWORDS→ GREAT LAKES;INLETS;PENTWATER HARBOR,MI;SEICHING

INNER CONTINENTAL SHELF

MR 80-4 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OF THE CAPE MAY REGION, NEW JERSEY(JUL 1 980)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CAPE MAY,NJ;GEOMORPHOLOGY;ICONS;INNER CONTINENTAL SHELF;SEISMIC REFLECTION

R 79-7 <UPPER QUATERNARY PEAT DEPOSITS ON THE ATLANTIC INNER SHELF OF THE UNITED STATES (SEP 1979)
AUTHOR(S)→ FIELD,M.E.; MEISBURGER,E.P.; STANLEY,E.A.; WILLIAMS,S.J.
KEYWORDS→ ATLANTIC COAST;GEOMORPHOLOGY;INNER CONTINENTAL SHELF;PEAT DEPOSITS;RADIOCARBON DATES

TP 78-4 <GEOMETRY OF PROFILES ACROSS INNER CONTINENTAL SHELVES OF THE ATLANTIC AND GULF COAST OF THE UNITED STATES (APR 1978)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ ATLANTIC COAST;BEACH EVALUATION PROGRAM-CERC;GULF COAST;INNER CONTINENTAL SHELF;PROFILES

TP 79-2 <SEDIMENTS, SHALLOW SUBBOTTOM STRUCTURE, AND SAND RESOURCES OF THE INNER CONTINENTAL SHELF, CENTRAL DELMARVA PENINSULA (JUN 1979)
AUTHOR(S)→ FIELD,M.E.
KEYWORDS→ DELMARVA PENINSULA;GEOMORPHOLOGY; ICONS;INNER CONTINENTAL SHELF;SEISMIC REFLECTION

TP 79-3 <RECONNAISSANCE GEOLOGY OF THE INNER CONTINENTAL SHELF, CAPE FEAR REGION, NORTH CAROLINA (SEP 1979)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CAPE FEAR,NC;ICONS; INNER CONTINENTAL SHELF

INSTRUMENTATION

MR 76-11 <MEASUREMENT TECHNIQUES FOR COASTAL WAVES AND CURRENTS (NOV 1976)
AUTHOR(S)→ MUSIALOWSKI,F.R.; PRINS,D.A.; TELEKI,P.G.

KEYWORDS→ CURRENT METERS;DYE TRACERS;GAGES,WAVE;
INSTRUMENTATION;SEA SLED

MR 80-8 <INSTRUMENTATION AT CERC'S FIELD RESEARCH
FACILITY, DUCK, NORTH CAROLINA (OCT 1980)
AUTHOR(S)→ MILLER,H.C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC;
INSTRUMENTATION

MR 81-7 <A USER'S GUIDE TO CERC'S FIELD RESEARCH
FACILITY (OCT 1981)
AUTHOR(S)→ BIRKEMEIER,W.A.; DEWALL,A.E.;
GORBICS,C.S.; MILLER,H.C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC;
INSTRUMENTATION

MR 82-11 <THE DESIGN,DEVELOPMENT, AND EVALUATION OF A
DIFFERENTIAL PRESSURE GAUGE DIRECTIONAL WAVE
MONITOR (OCT 1982)
AUTHOR(S)→ BODGE,K.R.
KEYWORDS→ ANALYSIS,SPECTRAL;GAGES,WAVE;
INSTRUMENTATION;WAVE CHARACTERISTICS

R 1-66 <AN OCEAN WAVE DIRECTION GAGE (FEB 1966)
AUTHOR(S)→ WILLIAMS,L.C.
KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

R 4-66 <A TRACTOR-MOUNTED SUSPENDED SAND SAMPLER (JUN
1966)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ INSTRUMENTATION;NAGS HEAD,NC;SAND
SAMPLER;SEDIMENT TRANSPORT;VENTNOR,NJ

R 6-73 <DESIGN CONSIDERATIONS FOR A 3-D LASER DOPPLER
VELOCIMETER FOR STUDYING GRAVITY WAVES IN
SHALLOW WATER(FEB 1973)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ INSTRUMENTATION;VELOCITY MEASUREMENTS

R 8-74 <DEVELOPEMENT OF A SHALLOW-WATER WAVE DIRECTION
GAGE (SEP 1974)
AUTHOR(S)→ HALLERMEIER,R.J.; JAMES,W.R.
KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

R 76-3 <DATA ACQUISITION METHODS FOR COASTAL CURRENTS
(JUN 1976)
AUTHOR(S)→ MUSIALOWSKI,F.R.; PRINS,D.A.;
TELEKI,P.G.
KEYWORDS→ CURRENTS;DATA COLLECTION;
INSTRUMENTATION

R 77-3 <NEARSHORE WAVE DIRECTION GAGE (APR 1977)
AUTHOR(S)→ HALLERMEIER,R.J.; JAMES,W.R.
KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

TM 3 <A THERMISTOR PROBE FOR MEASURING PARTICLE
ORBITAL SPEED IN WATER WAVES (MAR 1964)
AUTHOR(S)→ EAGLESON,P.S.; VAN DE WATERING,W.P.
KEYWORDS→ CURRENT METERS;INSTRUMENTATION;
THERMISTOR

TM 30 <CERC WAVE GAGES (DEC 1969)

AUTHOR(S)→ WILLIAMS,L.C.
KEYWORDS→ GAGES,WAVE;INSTRUMENTATION

TM 31 <MEASURING DIRECTIONAL VELOCITY IN WATER WAVES WITH AN ACOUSTIC FLOWMETER(APR 1970)
AUTHOR(S)→ MULTER,R.H.
KEYWORDS→ ACOUSTIC FLOWMETER;INSTRUMENTATION

TP 76-6 <INVESTIGATION OF THE OPERATING CHARACTERISTICS OF THE IOWA SEDIMENT CONCENTRATION MEASURING SYSTEM (MAY 1976)
AUTHOR(S)→ GLOVER,J.R.; LOCHER,F.A.; NAKATO,T.
KEYWORDS→ INSTRUMENTATION;SEDIMENT TRANSPORT

TP 77-2 <STILLING WELL DESIGN FOR ACCURATE WATER LEVEL MEASUREMENT (JAN 1977)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ DAMPING;INSTRUMENTATION;STILLING WELL

INTERLOCKING BLOCKS

R 2-67 <WAVE TESTS OF REVETMENT USING MACHINE-PRODUCED INTERLOCKING BLOCKS (AUG 1967)
AUTHOR(S)→ HALL,J.V.,JR.
KEYWORDS→ INTERLOCKING BLOCKS;REVETMENTS

INVERTEBRATES

MR 81-5 <A STUDY OF THE INVERTEBRATES AND FISHES OF SALT MARSHES IN TWO OREGON ESTUARIES (JUN 1981)
AUTHOR(S)→ HIGLEY,D.L.; HOLTON,R.L.
KEYWORDS→ FISH;INVERTEBRATES;MARSHES;NETARTS BAY,OR;SILETZ BAY,OR

IRREGULAR WAVES

CETA 77-7 <PREDICTION OF IRREGULAR WAVE OVERTOPPING (DEC 1977)
AUTHOR(S)→ AHRENS,J.P.
KEYWORDS→ IRREGULAR WAVES;OVERTOPPING,WAVE; RUNUP,WAVE

CETA 79-5 <ESTIMATING NEARSHORE SIGNIFICANT WAVE HEIGHT FOR IRREGULAR WAVES (OCT 1979)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ IRREGULAR WAVES;MATHEMATICAL MODELS

CETA 80-1 <MAXIMUM WAVE HEIGHTS AND CRITICAL WATER DEPTHS FOR IRREGULAR WAVES IN THE SURF ZONE (FEB 1980)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ IRREGULAR WAVES;WAVE CLIMATOLOGY

TP 82-1 <EMPIRICAL GUIDELINES FOR THE USE OF IRREGULAR WAVE MODEL TO ESTIMATE NEARSHORE WAVE HEIGHT (JUL 1982)
AUTHOR(S)→ MATTIE,M.G.

KEYWORDS→ IRREGULAR WAVES;WAVE CLIMATOLOGY

ISLAND BEACH,NJ

MR 77-3 <SIZE ANALYSIS OF SAND SAMPLES FROM SOUTHERN NEW JERSEY BEACHES (MAR 1977)
AUTHOR(S)→ GALVIN,C.J.,JR.; RAMSEY,M.D.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;BRIGANTINE,NJ;ISLAND BEACH,NJ; LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ

JETTIES

CETA 81-1 <WAVE LOADING ON VERTICAL SHEET-PILE GROINS AND JETTIES (JAN 1981)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ GROINS;JETTIES;WAVE FORCES

GITI 19 <TIDAL INLET RESPONSE TO JETTY CONSTRUCTION (OCT 1981)
AUTHOR(S)→ KIESLICH,J.M.
KEYWORDS→ JETTIES;NAVIGATION CHANNELS;TIDAL INLETS

R 76-4 <CHANNEL ENTRANCE RESPONSE TO JETTY CONSTRUCTION (JUN 1976)
AUTHOR(S)→ KIESLICH,J.M.; MASON,C.
KEYWORDS→ JETTIES;TIDAL INLETS

R 79-14 <WEIR JETTIES - THEIR CONTINUING EVOLUTION (JAN 1980)
AUTHOR(S)→ PARKER,N.E.
KEYWORDS→ HARBORS;JETTIES;WEIR JETTIES

SR-8 <WEIR SAND-BYPASSING SYSTEMS (APR 1981)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ JETTIES;SAND BYPASSING;WEIR JETTIES

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MP 3-69 <PIPE PROFILE DATA AND WAVE OBSERVATIONS FROM THE CERC BEACH EVALUATION PROGRAM, JANUARY-MARCH 1968 (SEP 1969)
AUTHOR(S)→ GALVIN,C.J.,JR.; URBAN,H.D.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LONG ISLAND,NY;LUDLAM ISLAND,NJ; PROFILES;SHORE PROCESSES;WESTHAMPTON BEACH,NY

TP 77-1 <BEACH CHANGES CAUSED BY THE ATLANTIC COAST STORM OF 17 DECEMBER 1970 (JAN 1977)
AUTHOR(S)→ DEWALL,A.E.; GALVIN,C.J.,JR.; PRITCHETT,P.C.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;CAPE COD,MA;EROSION;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;MISQUAMICUT,RI;PROFILES;TIDES;

JUPITER,FL

R 78-4 <BEACH AND NEARSHORE PROCESSES IN SOUTHEASTERN FLORIDA (FEB 1978)
AUTHOR(S)→ DEWALL,A.E.; RICHTER,J.J.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;HOLLYWOOD,FL;JUPITER,FL;LEO; PROFILES;SEDIMENT TRANSPORT

TP 77-10 <LITTORAL ENVIRONMENT OBSERVATIONS AND BEACH CHANGES ALONG THE SOUTHEAST FLORIDA COAST (OCT 1977)
AUTHOR(S)→ DEWALL,A.E.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;CURRENTS;HOLLYWOOD,FL;JUPITER,FL; LEO;PROFILES;WAVE CLIMATOLOGY

KNIK ARM,AK

TP 76-1 <SHOALING RATES AND RELATED DATA FROM KNIK ARM NEAR ANCHORAGE, ALASKA (MAR 1976)
AUTHOR(S)→ EVERTS,C.H.; MOORE,H.E.
KEYWORDS→ BULK DENSITY;CURRENTS;HARBORS;KNIK ARM,AK;SHOALING;TIDES

LABORATORIES

MP 3-64 <SUMMARY OF CAPABILITIES (APR 1964)
AUTHOR(S)→ CERC STAFF; RAYNOR,A.C.; SIMMONS,G.W.
KEYWORDS→ CERC;LABORATORIES

LAKE ERIE

MR 80-10 <SAND RESOURCES OF SOUTHERN LAKE ERIE, CONNEAUT TO TOLEDO, OHIO - A SEISMIC REFLECTION AND VIBRACORE STUDY (NOV 1980)
AUTHOR(S)→ CARTER,C.H.; FULLER,J.A.; MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;GEOMORPHOLOGY;ICONS; LAKE ERIE;SEISMIC REFLECTION

MR 82-9 <GEOLOGICAL CHARACTER AND MINERAL RESOURCES OF SOUTH CENTRAL LAKE ERIE (OCT 1982)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;LAKE ERIE;PRESQUE ISLE,PA

MR 82-15 <REGIONAL GEOLOGY OF THE SOUTHERN LAKE ERIE (OHIO) BOTTOM: A SEISMIC REFELCTION AND VIBRACORE STUDY (DEC 1982)
AUTHOR(S)→ CARTER,C.H.; FULLER,J.A.; MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;GEOMORPHOLOGY;ICONS;

LAKE ERIE

R 3-66 <FACTORS AFFECTING BEACH NOURISHMENT REQUIREMENTS,PRESQUE ISLE PENINSULA, ERIE PENNSYLVANIA (FEB 1966)
AUTHOR(S)→ BERG,D.W.
KEYWORDS→ BEACH NOURISHMENT;GREAT LAKES;LAKE ERIE;PRESQUE ISLE,PA

LAKE LEVELS

CETA 81-4 <PREDICTING ADJUSTMENTS IN SHORE AND OFFSHORE SAND PROFILES ON THE GREAT LAKES (JAN 1981)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN;PROFILES

MR 81-2 <COASTAL CHANGES, EASTERN LAKE MICHIGAN, 1970-74 (JAN 1981)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ BLUFFS;LAKE LEVELS;LAKE MICHIGAN;PROFILES

R 78-7 <IMPLICATIONS OF SUBMERGENCE FOR COASTAL ENGINEERS (FEB 1978)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;SUBMERGENCE

R 78-11 <SOME DATA POINTS ON SHORELINE RETREAT ATTRIBUTABLE TO COASTAL SUBSIDENCE (MAR 1978)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;PROFILES;SUBMERGENCE

TP 76-16 <COASTAL CHANGES, EASTERN LAKE MICHIGAN, 1970-1973 (OCT 1976)
AUTHOR(S)→ DAVIS,R.A.,JR.
KEYWORDS→ BLUFFS;LAKE LEVELS;LAKE MICHIGAN;PROFILES

TP 79-4 <CHANGES IN RATES OF SHORE RETREAT, LAKE MICHIGAN, 1967-76 (DEC 1979)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN;PROFILES;SUBMERGENCE

TP 80-7 <PREDICTION OF SHORE RETREAT AND NEARSHORE PROFILE ADJUSTMENTS TO RISING WATER LEVELS ON THE GREAT LAKES (OCT 1980)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN;PROFILES

TR 76-1 <OBSERVATIONS OF BARRED COASTAL PROFILES UNDER THE INFLUENCE OF RISING WATER LEVELS, EASTERN LAKE MICHIGAN, 1967-71 (JAN 1976)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;LONGSHORE BARS;PENTWATER HARBOR,MI;PROFILES

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LAKE MICHIGAN

CETA 81-4 <PREDICTING ADJUSTMENTS IN SHORE AND OFFSHORE SAND PROFILES ON THE GREAT LAKES (JAN 1981)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN; PROFILES

MP 10-75 <BEACH PROFILE CHANGES: EAST COAST OF LAKE MICHIGAN, 1970-72 (OCT 1975)
AUTHOR(S)→ DAVIS,R.A.,JR.; FINGLETON,W.G.; PRITCHETT,P.C.
KEYWORDS→ BLUFFS;LAKE MICHIGAN;LONGSHORE BARS; PROFILES

MR 79-3 <SAND RESOURCES OF SOUTHEASTERN LAKE MICHIGAN (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;LAKE MICHIGAN; SEISMIC REFLECTION

MR 80-2 <THE EFFECT OF STRUCTURES AND LAKE LEVEL ON BLUFF AND SHORE EROSION IN BERRIEN COUNTY, MICHIGAN, 1970-74 (APR 1980)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ BERRIEN COUNTY,MI;BLUFFS;EROSION; GREAT LAKES;LAKE MICHIGAN

MR 81-2 <COASTAL CHANGES, EASTERN LAKE MICHIGAN, 1970-74 (JAN 1981)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ BLUFFS;LAKE LEVELS;LAKE MICHIGAN; PROFILES

R 4-74 <LITTORAL ENVIRONMENT OBSERVATION PROGRAM IN THE STATE OF MICHIGAN (1974)
AUTHOR(S)→ BRUNO,R.O.; HIIPAKKA,L.W.
KEYWORDS→ LAKE MICHIGAN;LEO

R 78-7 <IMPLICATIONS OF SUBMERGENCE FOR COASTAL ENGINEERS (FEB 1978)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;SUBMERGENCE

R 78-11 <SOME DATA POINTS ON SHORELINE RETREAT ATTRIBUTABLE TO COASTAL SUBSIDENCE (MAR 1978)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;PROFILES; SUBMERGENCE

TP 76-16 <COASTAL CHANGES, EASTERN LAKE MICHIGAN, 1970-1973 (OCT 1976)
AUTHOR(S)→ DAVIS,R.A.,JR.
KEYWORDS→ BLUFFS;LAKE LEVELS;LAKE MICHIGAN; PROFILES

TP 79-4 <CHANGES IN RATES OF SHORE RETREAT, LAKE MICHIGAN, 1967-76 (DEC 1979)

AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN;
PROFILES;SUBMERGENCE

TP 80-7 <PREDICTION OF SHORE RETREAT AND NEARSHORE
PROFILE ADJUSTMENTS TO RISING WATER LEVELS ON
THE GREAT LAKES (OCT 1980)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN;
PROFILES

TR 76-1 <OBSERVATIONS OF BARRED COASTAL PROFILES UNDER
THE INFLUENCE OF RISING WATER LEVELS, EASTERN
LAKE MICHIGAN, 1967-71 (JAN 1976)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;LONGSHORE
BARS;PENTWATER HARBOR,MI;PROFILES

LAKE OKEECHOBEE,FL

TM 56 <AN ANALYSIS OF DRAG COEFFICIENT AT HURRICANE
WINDSPEEDS FROM A NUMERICAL SIMULATION OF
DYNAMICAL WATER LEVEL CHANGES IN LAKE
OKEECHOBEE, FLORIDA (OCT 1975)
AUTHOR(S)→ REID,R.O.; VASTANO,A.C.;
WHITAKER,R.E.
KEYWORDS→ DRAG COEFFICIENTS;HURRICANES;LAKE
OKEECHOBEE,FL;STORM SURGE

LAKESHORE PROCESSES

MP 1-75 <A PRIMER OF BASIC CONCEPTS OF LAKESHORE
PROCESSES (JAN 1975)
AUTHOR(S)→ BRUNO,R.O.; DUANE,D.B.; HANDS,E.B.;
HARRIS,D.L.
KEYWORDS→ BIBLIOGRAPHIES;GREAT LAKES;LAKESHORE
PROCESSES

LEO

*LITTORAL ENVIRONMENT OBSERVATION PROGRAM

CETA 80-3 <COMPUTATION OF LONGSHORE ENERGY FLUX USING LEO
CURRENT OBSERVATIONS (MAR 1980)
AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ CURRENTS;LEO;LONGSHORE ENERGY FLUX

CETA 81-5 <THE LITTORAL ENVIRONMENT OBSERVATION (LEO) DATA
COLLECTION PROGRAM (MAR 1981)
AUTHOR(S)→ SCHNEIDER,C.
KEYWORDS→ DATA COLLECTION;LEO;WAVE CLIMATOLOGY

MP 2-70 <LITTORAL ENVIRONMENT OBSERVATION PROGRAM IN
CALIFORNIA, PRELIMINARY REPORT, FEB-DEC 1968
(FEB 1970)
AUTHOR(S)→ SZUWALSKI,A.

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KEYWORDS→ CURRENTS;LEO

MR 82-6 <LITTORAL ENVIRONMENT OBSERVATION (LEO) DATA SUMMARIES, NORTHERN CALIFORNIA, 1968-78 (AUG 1982)
AUTHOR(S)→ SCHNEIDER,C.; WEGGEL,J.R.
KEYWORDS→ DATA COLLECTION;LEO

R 4-69 <SYSTEMATIC COLLECTION OF BEACH DATA (SEP 1969)
AUTHOR(S)→ BERG,D.W.
KEYWORDS→ DATA COLLECTION;LEO

R 4-74 <LITTORAL ENVIRONMENT OBSERVATION PROGRAM IN THE STATE OF MICHIGAN (1974)
AUTHOR(S)→ BRUNO,R.O.; HIIPAKKA,L.W.
KEYWORDS→ LAKE MICHIGAN;LEO

R 78-1 <VISUAL SURF OBSERVATIONS/MARINELAND EXPERIMENT (FEB 1978)
AUTHOR(S)→ SCHNEIDER,C.
KEYWORDS→ CURRENTS;LEO;MARINELAND,FL;WIND

R 78-4 <BEACH AND NEARSHORE PROCESSES IN SOUTHEASTERN FLORIDA (FEB 1978)
AUTHOR(S)→ DEWALL,A.E.; RICHTER,J.J.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;HOLLYWOOD,FL;JUPITER,FL;LEO; PROFILES;SEDIMENT TRANSPORT

R 81-2 <LITTORAL SAND TRANSPORT FROM LONGSHORE CURRENTS (APR 1981)
AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ CURRENTS;LEO;LONGSHORE ENERGY FLUX

R 81-12 <VISUALLY OBSERVED WAVE DATA AT PT. MUGU, CALIFORNIA (DEC 1981)
AUTHOR(S)→ SCHNEIDER,C.; WEGGEL,J.R.
KEYWORDS→ LEO;PT. MUGU,CA

TM 49 <ANALYSIS AND INTERPRETATION OF LITTORAL ENVIRONMENT OBSERVATION (LEO) AND PROFILE DATA ALONG THE WESTERN PANHANDLE COAST OF FLORIDA (MAR 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ AERIAL PHOTOGRAPHY;CURRENTS; GEOMORPHOLOGY;LEO;PROFILES;STORMS

TM 58 <SURF OBSERVATIONS AND LONGSHORE CURRENT PREDICTION (NOV 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ CURRENTS;GEOMORPHOLOGY;LEO;PROFILES; PT. MUGU,CA

TP 77-10 <LITTORAL ENVIRONMENT OBSERVATIONS AND BEACH CHANGES ALONG THE SOUTHEAST FLORIDA COAST (OCT 1977)
AUTHOR(S)→ DEWALL,A.E.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;CURRENTS;HOLLYWOOD,FL;JUPITER,FL; LEO;PROFILES;WAVE CLIMATOLOGY

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LEXINGTON HARBOR,MI

MR 82-13 <EFFECTS OF BEACH NOURISHMENT ON THE NEARSHORE ENVIRONMENT IN LAKE HURON AT LEXINGTON HARBOR (MICHIGAN) (NOV 1982)
AUTHOR(S)→ NESTER,R.T.; POE,T.P.
KEYWORDS→ BEACH NOURISHMENT;LEXINGTON HARBOR,MI

LIFT FORCES

TM 2 <TRANSPORTATION OF BED MATERIAL DUE TO WAVE ACTION (FEB 1964)
AUTHOR(S)→ KALKANIS,G.
KEYWORDS→ BOUNDARY LAYER FLOW;LIFT FORCES; SEDIMENT TRANSPORT

TP 77-11 <FORCES EXERTED BY WAVES ON A PIPELINE AT OR NEAR THE OCEAN BOTTOM (OCT 1977)
AUTHOR(S)→ BOWIE,G.L.
KEYWORDS→ DRAG FORCES;LIFT FORCES;PIPELINES; WAVE FORCES

LITTORAL BARRIERS

R 83-10 <SHORELINE CHANGES DOWNDRIFT OF A LITTORAL BARRIER (MAY 1983)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ CRENULATE-SHAPED BAYS;LITTORAL BARRIERS;SHORE PROCESSES

TM 14 <SAND MOVEMENT ALONG A PORTION OF THE NORTHERN CALIFORNIA COAST (OCT 1965)
AUTHOR(S)→ CHERRY,J.S
KEYWORDS→ BODEGA HEAD,CA;DRAKES BAY,CA;LITTORAL BARRIERS;POINT REYES,CA;RUSSIAN RIVER,CA; SEDIMENT TRANSPORT

LONG BEACH ISLAND,NJ

MP 3-69 <PIPE PROFILE DATA AND WAVE OBSERVATIONS FROM THE CERC BEACH EVALUATION PROGRAM, JANUARY-MARCH 1968 (SEP 1969)
AUTHOR(S)→ GALVIN,C.J.,JR.; URBAN,H.D.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LONG ISLAND,NY;LUDLAM ISLAND,NJ; PROFILES;SHORE PROCESSES;WESTHAMPTON BEACH,NY

MR 77-3 <SIZE ANALYSIS OF SAND SAMPLES FROM SOUTHERN NEW JERSEY BEACHES (MAR 1977)
AUTHOR(S)→ GALVIN,C.J.,JR.; RAMSEY,M.D.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;BRIGANTINE,NJ;ISLAND BEACH,NJ; LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ

MR 80-9 <BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY,

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MP 10-75 <BEACH PROFILE CHANGES: EAST COAST OF LAKE MICHIGAN, 1970-72 (OCT 1975)
AUTHOR(S)→ DAVIS,R.A.,JR.; FINGLETON,W.G.; PRITCHETT,P.C.
KEYWORDS→ BLUFFS;LAKE MICHIGAN;LONGSHORE BARS; PROFILES

TP 76-11 <GRAIN SHAPE AND SIZE DISTRIBUTION EFFECTS IN COASTAL MODELS (JUL 1976)
AUTHOR(S)→ CHESNUTT,C.B.; COLLINS,J.I.
KEYWORDS→ LONGSHORE BARS;MOVABLE-BED MODELING; PROFILES;SEDIMENT CHARACTERISTICS;SEDIMENT TRANSPORT

TR 76-1 <OBSERVATIONS OF BARRED COASTAL PROFILES UNDER THE INFLUENCE OF RISING WATER LEVELS, EASTERN LAKE MICHIGAN, 1967-71 (JAN 1976)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;LONGSHORE BARS;PENTWATER HARBOR,MI;PROFILES

LONGSHORE ENERGY FLUX

CETA 80-3 <COMPUTATION OF LONGSHORE ENERGY FLUX USING LEO CURRENT OBSERVATIONS (MAR 1980)
AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ CURRENTS;LEO;LONGSHORE ENERGY FLUX

MR 81-4 <MOVABLE-BED LABORATORY EXPERIMENTS COMPARING RADIATION STRESS AND ENERGY FLUX FACTOR AS PREDICTORS OF LONGSHORE TRANSPORT RATE (APR 1981)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ LONGSHORE ENERGY FLUX;MOVABLE-BED MODELING;SEDIMENT TRANSPORT

R 78-3 <SEDIMENT BUDGET ANALYSIS WRIGHTSVILLE BEACH TO KURE BEACH, N.C. (FEB 1978)
AUTHOR(S)→ JARRETT,J.T.
KEYWORDS→ BUDGET,SEDIMENT;LONGSHORE ENERGY FLUX; REFRACTION,WAVE;SEDIMENT TRANSPORT

R 81-2 <LITTORAL SAND TRANSPORT FROM LONGSHORE CURRENTS (APR 1981)
AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ CURRENTS;LEO;LONGSHORE ENERGY FLUX

TP 79-1 <RELATION BETWEEN IMMERSED WEIGHT AND VOLUME RATES OF LONGSHORE TRANSPORT (MAY 1979)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ LONGSHORE ENERGY FLUX;SEDIMENT TRANSPORT

TP 80-4 <THE SPM ENERGY FLUX METHOD FOR PREDICTING LONGSHORE TRANSPORT RATE (JUN 1980)

AUTHOR(S)→ CZERNIAK,M.T.; EVERTS,C.H.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES; STORMS

R 79-2 <THE EFFECTS OF THE 19 DECEMBER 1977 COASTAL STORM ON BEACHES IN NORTH CAROLINA AND NEW JERSEY (JAN 1979)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ CURRENTS;DARE COUNTY,NC;DATA COLLECTION;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES;STORMS

TP 77-1 <BEACH CHANGES CAUSED BY THE ATLANTIC COAST STORM OF 17 DECEMBER 1970 (JAN 1977)
AUTHOR(S)→ DEWALL,A.E.; GALVIN,C.J.,JR.; PRITCHETT,P.C.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;CAPE COD,MA;EROSION;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;MISQUAMICUT,RI;PROFILES;TIDES; WESTHAMPTON BEACH,NY

MACROINVERTEBRATES

CETA 79-3 <SAMPLING MACROINVERTEBRATES ON HIGH-ENERGY SAND BEACHES (SEP 1979)
AUTHOR(S)→ HURME,A.K.; PULLEN,E.J.; YANCEY,R.M.
KEYWORDS→ MACROINVERTEBRATES;SAMPLING ANALYSIS

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SR 2 <SMALL-CRAFT HARBORS: DESIGN, CONSTRUCTION, AND OPERATION (DEC 1974)
AUTHOR(S)→ DUNHAM,J.W.; FINN,A.A.
KEYWORDS→ DOCKS;HARBORS;MARINAS;PIERS

MARINE ENGINEERING

MR 76-4 <SIMPLIFIED DESIGN METHODS OF TREATED TIMBER STRUCTURES FOR SHORE, BEACH, AND MARINA CONSTRUCTION (MAR 1976)
AUTHOR(S)→ AYERS,J.; STOKES,R.
KEYWORDS→ BULKHEADS;GROINS;MARINE ENGINEERING; PIERS;PRESSURE TREATED TIMBER;SEAWALLS

MARINELAND,FL

R 78-1 <VISUAL SURF OBSERVATIONS/MARINELAND EXPERIMENT (FEB 1978)
AUTHOR(S)→ SCHNEIDER,C.
KEYWORDS→ CURRENTS;LEO;MARINELAND,FL;WIND

MATHEMATICAL MODELS;TIDAL INLETS

GITI 13 <HYDRAULICS AND STABILITY OF TIDAL INLETS (AUG 1977)
AUTHOR(S)→ ESCOFFIER,F.F.
KEYWORDS→ MASONBORO INLET,NC;MISSION BAY,CA; ROLLOVER PASS,TX;TIDAL INLETS

GITI 15 <PHYSICAL MODEL SIMULATION OF THE HYDRAULICS OF MASONBORO INLET,NORTH CAROLINA (NOV 1977)
AUTHOR(S)→ SAGER,R.A.; SEABERGH,W.C.
KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; TIDAL INLETS

GITI 18 <SUPPLEMENTARY TESTS OF MASONBORO INLET FIXED-BED MODEL: HYDRAULIC MODEL INVESTIGATION (MAY 1980)
AUTHOR(S)→ SAGER,R.A.; SEABERGH,W.C.
KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; TIDAL INLETS

GITI 22 <EVALUATION OF PHYSICAL AND NUMERICAL HYDRAULIC MODELS, MASONBORO INLET, NORTH CAROLINA (FEB 1982)
AUTHOR(S)→ MCTAMANY,J.E.
KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; MATHEMATICAL MODELS

MASSACHUSETTS BAY

TP 76-3 <GEOMORPHOLOGY AND SEDIMENTS OF WESTERN MASSACHUSETTS BAY (APR 1976)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS; MASSACHUSETTS BAY;SEISMIC REFLECTION

MATHEMATICAL MODELS

CETA 77-1 <A SIMPLE COMPUTER MODEL FOR EVALUATING COASTAL INLET HYDRAULICS (JUL 1977)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ MATHEMATICAL MODELS;TIDAL INLETS

CETA 79-5 <ESTIMATING NEARSHORE SIGNIFICANT WAVE HEIGHT FOR IRREGULAR WAVES (OCT 1979)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ IRREGULAR WAVES;MATHEMATICAL MODELS

CETA 81-12 <PREDICTION OF WAVE REFRACTION AND SHOALING USING TWO NUMERICAL MODELS (AUG 1981)
AUTHOR(S)→ HUBERTZ,J.M.
KEYWORDS→ MATHEMATICAL MODELS;REFRACTION,WAVE; SHOALING

CETA 81-13 <PRODUCTS FROM TWO COMPUTER PROGRAMS WHICH PROCESS DIGITAL BATHYMETRIC DATA (OCT 1981)
AUTHOR(S)→ HERCHENRODER,B.E.
KEYWORDS→ MATHEMATICAL MODELS;SHORE PROCESSES

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CETA 82-4 <HAND-HELD CALCULATOR ALGORITHMS FOR COASTAL ENGINEERING(SECOND SERIES) (NOV 1982)
AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ MATHEMATICAL MODELS;WAVE CHARACTERISTICS;WAVE TRANSFORMATION

CETA 82-7 <PREDICTION OF NEARSHORE WAVE TRANSFORMATION (DEC 1982)
AUTHOR(S)→ HUBERTZ,J.M.
KEYWORDS→ MATHEMATICAL MODELS;SHOALING;WAVE TRANSFORMATION

GITI 6 <COMPARISON OF NUMERICAL AND PHYSICAL HYDRAULIC MODELS, MASONBORO INLET, NORTH CAROLINA (JUN 1977)
AUTHOR(S)→ BODINE,B.R.; HARRIS,D.L.
KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; MATHEMATICAL MODELS;TIDAL INLETS

GITI 14 <A SPATIALLY INTEGRATED NUMERICAL MODEL OF INLET HYDRAULICS (NOV 1977)
AUTHOR(S)→ HARRIS,D.L.; HERCHENRODER,B.E.; SEELIG,W.N.
KEYWORDS→ CURRENTS;MATHEMATICAL MODELS;STORM SURGE;TIDAL INLETS;TIDES;TSUNAMIS

GITI 22 <EVALUATION OF PHYSICAL AND NUMERICAL HYDRAULIC MODELS, MASONBORO INLET, NORTH CAROLINA (FEB 1982)
AUTHOR(S)→ MCTAMANY,J.E.
KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; MATHEMATICAL MODELS

MP 3-70 <RAPLOT II - COMPUTER PROGRAM FOR DATA PROCESSING AND GRAPHICAL DISPLAY FOR RADIOISOTOPIC SAND TRACER STUDY (MAY 1970)
AUTHOR(S)→ TURNER,P.A.
KEYWORDS→ MATHEMATICAL MODELS;RIST

MR 77-10 <MATHEMATICAL MODELING OF SHORELINE EVOLUTION (OCT 1977)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;SHORE PROCESSES

MR 80-6 <A NUMERICAL MODEL FOR PREDICTING SHORELINE CHANGES (JUL 1980)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ CURRENTS;DIFFRACTION,WAVE;GREAT LAKES; HOLLAND HARBOR,MI;MATHEMATICAL MODELS; REFRACTION,WAVE;SHORE PROCESSES

MR 83-10 <A NUMERICAL MODEL TO SIMULATE SEDIMENT TRANSPORT IN THE VICINITY OF COASTAL STRUCTURES (MAY 1983)
AUTHOR(S)→ DEAN,R.G.; PERLIN,M.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

R 4-71 <WAVES GENERATED BY A PISTON-TYPE WAVEMAKER (SEP 1971)

AUTHOR(S)→ MADSEN,O.S.
KEYWORDS→ MATHEMATICAL MODELS;PISTON-TYPE WAVE GENERATOR;WAVE CHARACTERISTICS

R 6-71 <PROCESSING AND ANALYSIS OF RADIOISOTOPIC SAND TRACER (RIST) STUDY DATA (SEP 1971)
AUTHOR(S)→ ACREE,E.H.; BRASHEAR,H.R.; CASE,F.N.; DUANE,D.B.; TURNER,P.A.
KEYWORDS→ MATHEMATICAL MODELS;RIST;SEDIMENT TRANSPORT

R 12-73 <A GROSS LONGSHORE TRANSPORT RATE FORMULA (JUL 1973)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

R 79-6 <PREDICTING BEACH PLANFORMS IN THE LEE OF A BREAKWATER (AUG 1979)
AUTHOR(S)→ PERLIN,M.
KEYWORDS→ BREAKWATERS;DIFFRACTION,WAVE; MATHEMATICAL MODELS;REFRACTION,WAVE

R 79-10 <NUMERICAL MODEL INVESTIGATION OF SELECTED TIDAL INLET-BAY SYSTEM CHARACTERISTICS (NOV 1979)
AUTHOR(S)→ SEELIG,W.N.; SORENSEN,R.M.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;TIDAL INLETS

R 82-3 <BOTTOM SMOOTHING TO PREVENT NUMERICAL INSTABILITY (NOV 1981)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

R 82-5 <BEDLOAD AND WAVE THRUST COMPUTATIONS OF ALONGSHORE SAND TRANSPORT (AUG 1982)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;WAVE CHARACTERISTICS

R 83-8 <SAND TRANSPORT LIMITS IN COASTAL STRUCTURE DESIGNS (MAY 1983)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

SR-6 <TSUNAMI ENGINEERING (FEB 1980)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ MATHEMATICAL MODELS;TSUNAMIS;WAVE FORCES

TM 16 <A LOGNORMAL SIZE DISTRIBUTION MODEL FOR ESTIMATING STABILITY OF BEACH FILL MATERIAL (NOV 1965)
AUTHOR(S)→ JAMES,W.R.; KRUMBEIN,W.C.
KEYWORDS→ BEACH NOURISHMENT;MATHEMATICAL MODELS; VIRGINIA BEACH,VA

TM 17 <A METHOD FOR CALCULATING AND PLOTTING SURFACE WAVE RAYS (FEB 1966)
AUTHOR(S)→ WILSON,W.S.
KEYWORDS→ MATHEMATICAL MODELS;REFRACTION,WAVE; VIRGINIA BEACH,VA

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TR 78-1 <AN EVALUATION OF TWO GREAT LAKES WAVE MODELS (OCT 1978)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ HINDCASTING;MATHEMATICAL MODELS;WAVE CLIMATOLOGY

TR 80-1 <TWO-DIMENSIONAL TESTS OF WAVE TRANSMISSION AND REFLECTION CHARACTERISTICS OF LABORATORY BREAKWATERS (JUN 1980)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;MATHEMATICAL MODELS; REFLECTION,WAVE;TRANSMISSION,WAVE

TR 82-1 <BEACH PROFILE ANALYSIS SYSTEM (JUN 1982)
AUTHOR(S)→ DEWALL,A.E.; FLEMING,M.V.; FRENCH,D.; LAWLER,T.J.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC; MATHEMATICAL MODELS;PROFILES

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MR 77-5 <ANALYSIS OF SHORT-TERM VARIATIONS IN BEACH MORPHOLOGY (AND CONCURRENT DYNAMIC PROCESSES) FOR SUMMER AND WINTER PERIODS, 1971-72, PLUM ISLAND, MASSACHUSETTS (MAR 1977)
AUTHOR(S)→ ABELE,R.W.,JR.
KEYWORDS→ CURRENTS;METEOROLOGICAL DATA;PLUM ISLAND,MA;PROFILES;WAVE CHARACTERISTICS

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TM 29 <GEOMORPHOLOGY AND SEDIMENTS OF THE NEARSHORE CONTINENTAL SHELF, MIAMI TO PALM BEACH, FLORIDA (NOV 1969)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS;MIAMI,FL;PALM BEACH,FL; SEISMIC REFLECTION

MILL COVE,FL

R 83-5 <ANALYSIS METHOD FOR STUDYING SEDIMENTATION PATTERNS (MAY 1983)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ MILL COVE,FL;SEDIMENT TRANSPORT; SHOALING

MINERAL SOLIDS

TP 76-20 <LETHAL EFFECTS OF SUSPENDED SEDIMENTS ON ESTUARINE FISH (DEC 1976)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.

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KEYWORDS→ FAUNA;FISH;MINERAL SOLIDS;PATUXENT RIVER,MD;SEDIMENT TRANSPORT

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TP 77-1 <BEACH CHANGES CAUSED BY THE ATLANTIC COAST STORM OF 17 DECEMBER 1970 (JAN 1977)
AUTHOR(S)→ DEWALL,A.E.; GALVIN,C.J.,JR.; PRITCHETT,P.C.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;CAPE COD,MA;EROSION;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;MISQUAMICUT,RI;PROFILES;TIDES;WESTHAMPTON BEACH,NY

MISSION BAY,CA

GITI 13 <HYDRAULICS AND STABILITY OF TIDAL INLETS (AUG 1977)
AUTHOR(S)→ ESCOFFIER,F.F.
KEYWORDS→ MASONBORO INLET,NC;MISSION BAY,CA;ROLLOVER PASS,TX;TIDAL INLETS

R 11-73 <CASE HISTORY OF MISSION BAY INLET, SAN DIEGO, CALIFORNIA (JUL 1973)
AUTHOR(S)→ HERRON,W.J.,JR.
KEYWORDS→ MISSION BAY,CA;TIDAL INLETS

MISSION BEACH,CA

R 81-5 <WAVE DIRECTION MEASURED BY FOUR DIFFERENT SYSTEMS (SEP 1981)
AUTHOR(S)→ EVANS,D.D.; HSIAO,S.V.; MATTIE,M.G.
KEYWORDS→ AERIAL PHOTOGRAPHY;GAGES,WAVE;MISSION BEACH,CA;RADAR;SYNTHETIC APERTURE RADAR(SAR)

MONITORING GUIDELINES

MP 2-75 <GUIDELINES FOR MONITORING SHORE PROTECTION STRUCTURES IN THE GREAT LAKES (FEB 1975)
AUTHOR(S)→ CERC STAFF
KEYWORDS→ GREAT LAKES;MONITORING GUIDELINES

MONTEREY BAY,CA

MP 8-75 <EFFECTS OF ENGINEERING ACTIVITIES ON THE ECOLOGY OF PISMO CLAMS (SEP 1975)
AUTHOR(S)→ NYBAKKEN,J.; STEPHENSON,M.
KEYWORDS→ MONTEREY BAY,CA;PISMO CLAMS

TP 76-14 <SAMPLING VARIATION IN SANDY BEACH LITTORAL AND NEARSHORE MEIOFAUNA AND MACROFAUNA (SEP 1976)
AUTHOR(S)→ COX,J.L.
KEYWORDS→ FAUNA;MONTEREY BAY,CA;SAMPLING ANALYSIS

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TP 76-15 <EFFECTS OF DREDGING AND DISPOSAL ON SOME BENTHOS AT MONTEREY BAY, CALIFORNIA (OCT 1976)
AUTHOR(S)→ OLIVER,J.S.; SLATTERY,P.N.
KEYWORDS→ DREDGING;ECOLOGY;FAUNA;MONTEREY BAY,CA;RECOLONIZATION RATES

MOORING FORCES

CETA 79-4 <DETERMINATION OF MOORING LOAD AND TRANSMITTED WAVE HEIGHT FOR A FLOATING TIRE BREAKWATER (SEP 1979)
AUTHOR(S)→ ECKERT,J.W.; GILES,M.L.
KEYWORDS→ BREAKWATERS;FLOATING BREAKWATERS; MOORING FORCES;TRANSMISSION,WAVE;WAVE CLIMATOLOGY

TP 78-3 <PROTOTYPE SCALE MOORING LOAD AND TRANSMISSION TESTS FOR A FLOATING BREAKWATER (APR 1978)
AUTHOR(S)→ GILES,M.L.; SORENSEN,R.M.
KEYWORDS→ ATTENUATION,WAVE;BREAKWATERS;FLOATING BREAKWATERS;MOORING FORCES;TIRES; TRANSMISSION,WAVE

TP 82-4 <WAVE TRANSMISSION AND MOORING-FORCE CHARACTERISTICS OF PIPE-TIRE FLOATING BREAKWATERS (OCT 1982)
AUTHOR(S)→ HARMS,V.W.; MCTAMANY,J.E.; SORENSEN,R.M.; WESTERINK,J.J.
KEYWORDS→ FLOATING BREAKWATERS;MOORING FORCES; TIRES;TRANSMISSION,WAVE

MOVABLE-BED MODELING

GITI 7 <MODEL MATERIALS EVALUATION; SAND TESTS; HYDRAULIC LABORATORY INVESTIGATION (JUN 1976)
AUTHOR(S)→ MCNAIR,E.C.
KEYWORDS→ HYDRAULIC MODELS;MOVABLE-BED MODELING; QUARTZ SAND;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 17 <AN EVALUATION OF MOVABLE-BED TIDAL INLET MODELS (FEB 1979)
AUTHOR(S)→ JAIN,S.C.; KENNEDY,J.F.
KEYWORDS→ MOVABLE-BED MODELING;SEDIMENT TRANSPORT;TIDAL INLETS

MR 77-7 <LABORATORY EFFECTS IN BEACH STUDIES (JUN 1977)
AUTHOR(S)→ CHESNUTT,C.B.; STAFFORD,R.P.
KEYWORDS→ MOVABLE-BED MODELING;PROFILES; REFLECTION,WAVE;WAVE CLIMATOLOGY;WAVE TANKS

MR 81-4 <MOVABLE-BED LABORATORY EXPERIMENTS COMPARING RADIATION STRESS AND ENERGY FLUX FACTOR AS PREDICTORS OF LONGSHORE TRANSPORT RATE (APR 1981)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ LONGSHORE ENERGY FLUX;MOVABLE-BED MODELING;SEDIMENT TRANSPORT

KEYWORD INDEX

R 11-74 <LAB PROFILE AND REFLECTION CHANGES FOR H/L = 0.02 (JUN 1974)
AUTHOR(S)→ CHESNUTT,C.B.; GALVIN,C.J.,JR.
KEYWORDS→ MOVABLE-BED MODELING;PROFILES

R 3-75 <LABORATORY EFFECTS IN COASTAL MOVABLE-BED MODELS (DEC 1975)
AUTHOR(S)→ CHESNUTT,C.B.
KEYWORDS→ HYDRAULIC MODELS;MOVABLE-BED MODELING

R 4-75 <TESTS ON THE EQUILIBRIUM PROFILES OF MODEL BEACHES AND THE EFFECTS OF GRAIN SHAPE AND SIZE DISTRIBUTION (DEC 1975)
AUTHOR(S)→ CHESNUTT,C.B.; COLLINS,J.I.
KEYWORDS→ MOVABLE-BED MODELING;PROFILES

R 83-4 <MOVABLE-BED MODELING LAW FOR COASTAL DUNE EROSION (MAY 1983)
AUTHOR(S)→ HUGHES,S.A.
KEYWORDS→ DUNES;MOVABLE-BED MODELING

SR-5 <COASTAL HYDRAULIC MODELS (MAY 1979)
AUTHOR(S)→ CHATHAM,C.E.,JR.; HALES,L.Z.; HERRMANN,F.A.,JR.; HUDSON,R.Y.; KEULEGAN,G.H.; SAGER,R.A.; WHALIN,R.W.
KEYWORDS→ HYDRAULIC MODELS;MOVABLE-BED MODELING

TP 76-11 <GRAIN SHAPE AND SIZE DISTRIBUTION EFFECTS IN COASTAL MODELS (JUL 1976)
AUTHOR(S)→ CHESNUTT,C.B.; COLLINS,J.I.
KEYWORDS→ LONGSHORE BARS;MOVABLE-BED MODELING; PROFILES;SEDIMENT CHARACTERISTICS;SEDIMENT TRANSPORT

MULTISPECTRAL SCANNER

MR 76-2 <AN ERTS-1 STUDY OF COASTAL FEATURES ON THE NORTH CAROLINA COAST (JAN 1976)
AUTHOR(S)→ BERG,D.W.; MILLER,G.H.
KEYWORDS→ ERTS;MULTISPECTRAL SCANNER;REMOTE SENSING;SATELLITES

NAGS HEAD,NC

CETA 81-3 <A MODEL FOR THE DISTRIBUTION FUNCTION FOR SIGNIFICANT WAVE HEIGHT (JAN 1981)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ NAGS HEAD,NC;WAVE CLIMATOLOGY;WEIBULL DISTRIBUTION FUNCTION

R 4-66 <A TRACTOR-MOUNTED SUSPENDED SAND SAMPLER (JUN 1966)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ INSTRUMENTATION;NAGS HEAD,NC;SAND SAMPLER;SEDIMENT TRANSPORT;VENTNOR,NJ

R 14-73 <LONGSHORE TRANSPORT OF SUSPENDED SEDIMENT (JUL 1973)

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NEW JERSEY

MR 82-10 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OFF THE CENTRAL NEW JERSEY COAST (OCT 1982)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;NEW JERSEY; SEISMIC REFLECTION

NEW RIVER INLET,NC

R 78-6 <NEARSHORE DISPOSAL: ONSHORE SEDIMENT TRANSPORT (FEB 1978)
AUTHOR(S)→ MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;PROFILES;SEDIMENT TRANSPORT

R 78-10 <SEDIMENT HANDLING AND BEACH FILL DESIGN (FEB 1978)
AUTHOR(S)→ HOBSON,R.D.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;ROCKAWAY BEACH,NY

R 79-9 <IMPORTANCE OF HANDLING LOSSES TO BEACH FILL DESIGN (NOV 1979)
AUTHOR(S)→ HOBSON,R.D.; JAMES,W.R.
KEYWORDS→ BEACH NOURISHMENT;NEW RIVER INLET,NC; ROCKAWAY BEACH,NY

TP 80-1 <TRANSPORT OF DREDGED SEDIMENT PLACED IN THE NEARSHORE ZONE - CURRITUCK SAND-BYPASS STUDY (PHASE I) (FEB 1980)
AUTHOR(S)→ MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS→ BEACH NOURISHMENT;NEW RIVER INLET,NC; SAND BYPASSING;SEDIMENT TRANSPORT

NEW YORK BIGHT

R 2-75 <CONSTRUCTION IN THE COASTAL ZONE: A POTENTIAL USE OF WASTE MATERIAL (AUG 1975)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.
KEYWORDS→ ARTIFICIAL ISLANDS;DREDGING;NEW YORK BIGHT

R 79-1 <GEOLOGIC EFFECTS OF OCEAN DUMPING ON THE NEW YORK BIGHT INNER SHELF (MAR 1979)
AUTHOR(S)→ WILLIAMS,S.J.
KEYWORDS→ DREDGING;GEOMORPHOLOGY;NEW YORK BIGHT; SEISMIC REFLECTION

TM 39 <OCEAN DUMPING IN THE NEW YORK BIGHT: AN ASSESSMENT OF ENVIRONMENTAL STUDIES (MAY 1973)
AUTHOR(S)→ PARARAS-CARAYANNIS,G
KEYWORDS→ DREDGING;NEW YORK BIGHT

TM 45 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER NEW YORK BIGHT CONTINENTAL SHELF (JUL 1974)
AUTHOR(S)→ DUANE,D.B.; WILLIAMS,S.J.

KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS;NEW YORK BIGHT

NEWPORT,CA

R 9-73 <TIME-INTERVAL PHOTOGRAPHY OF LITTORAL PHENOMENA (JUL 1973)
AUTHOR(S)→ BERG,D.W.; HAWLEY,E.F.
KEYWORDS→ NEWPORT,CA;PHOTOGRAPHY;PT. MUGU,CA

NORTH INLET,SC

GITI 10 <HYDRAULICS AND DYNAMICS OF NORTH INLET, SOUTH CAROLINA, 1974-75 (SEP 1976)
AUTHOR(S)→ FINLEY,R.J.
KEYWORDS→ NORTH INLET,SC;SEDIMENT TRANSPORT; TIDAL INLETS

GITI 16 <HYDRAULICS AND DYNAMICS OF NORTH INLET, SOUTH CAROLINA, 1975-76 (SEP 1978)
AUTHOR(S)→ HUMPHRIES,S.M.; NUMMEDAL,D.
KEYWORDS→ NORTH INLET,SC;TIDAL INLETS

NORTH PADRE ISLAND,TX

MP 1-70 <EXPERIMENTAL DUNES OF THE TEXAS COAST (JAN 1970)
AUTHOR(S)→ GAGE,B.O.
KEYWORDS→ BARRIER ISLANDS;CORPUS CHRISTI PASS,TX;DUNES;FENCES,SAND;GALVESTON ISLAND,TX;NORTH PADRE ISLAND,TX;PACKERY CHANNEL,TX;VEGETATION

NUMERICAL MODELS*

*SEE MATHEMATICAL MODELS

OAHE RESERVOIR,SD

TP 76-19 <OVERLAY OF LARGE, PLACED QUARRYSTONE AND BOULDERS TO INCREASE RIPRAP STABILITY (DEC 1976)
AUTHOR(S)→ AHRENS,J.P.; MCCARTNEY,B.L.
KEYWORDS→ ARMOR UNITS;OAHE RESERVOIR,SD; QUARRYSTONE;RIPRAP;WAVE FORCES

OFFSHORE PLATFORMS

TP 76-18 <HYDRODYNAMIC DAMPING AND ADDED MASS FOR FLEXIBLE OFFSHORE PLATFORMS (OCT 1976)
AUTHOR(S)→ PETRAUSKAS,C.
KEYWORDS→ ADDED MASS;DAMPING;OFFSHORE PLATFORMS; WAVE FORCES

OFFSHORE STRUCTURES*

*SEE COASTAL STRUCTURES

ONSLOW COUNTY,NC

TM 36 <AN AERIAL PHOTOGRAPHIC TECHNIQUE FOR BEACH EROSION SURVEYS IN NORTH CAROLINA (OCT 1971)
AUTHOR(S)→ STAFFORD,D.B.
KEYWORDS→ AERIAL PHOTOGRAPHY;CARTERET COUNTY,NC; ONSLOW COUNTY,NC

OOLITIC ARAGONITE

MP 1-69 <OOLITIC ARAGONITE AND QUARTZ SAND: LABORATORY COMPARISON UNDER WAVE ACTION (APR 1969)
AUTHOR(S)→ MONROE,F.F.
KEYWORDS→ HYDRAULIC MODELS;OOLITIC ARAGONITE; QUARTZ SAND

OUTER BANKS,NC

TM 61 <NATURE AND GENESIS OF SOME STORM WASHOVER DEPOSITS (DEC 1975)
AUTHOR(S)→ SCHWARTZ,R.K.
KEYWORDS→ OUTER BANKS,NC;PRESQUE ISLE,PA; WASHOVER DEPOSITS

OVERTOPPING,WAVE

CDM 76-1 <A SIMPLIFIED METHOD FOR DETERMINING VERTICAL BREAKWATER CREST ELEVATION CONSIDERING WAVE HEIGHT TRANSMITTED BY OVERTOPPING (MAY 1976)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;OVERTOPPING,WAVE; TRANSMISSION,WAVE

CETA 77-7 <PREDICTION OF IRREGULAR WAVE OVERTOPPING (DEC 1977)
AUTHOR(S)→ AHRENS,J.P.
KEYWORDS→ IRREGULAR WAVES;OVERTOPPING,WAVE; RUNUP,WAVE

CETA 80-7 <ESTIMATION OF WAVE TRANSMISSION COEFFICIENTS FOR OVERTOPPING OF IMPERMEABLE BREAKWATERS (DEC 1980)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;OVERTOPPING,WAVE; RUNUP,WAVE;TRANSMISSION,WAVE

CETA 80-8 <ESTIMATION OF FLOW THROUGH OFFSHORE BREAKWATER GAPS GENERATED BY WAVE OVERTOPPING (DEC 1980)
AUTHOR(S)→ SEELIG,W.N.; WALTON,T.L.,JR.
KEYWORDS→ BREAKWATERS;COASTAL STRUCTURES;

OVERTOPPING,WAVE

R 77-7 <WAVE OVERTOPPING EQUATION (JUL 1977)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ OVERTOPPING,WAVE;RUNUP,WAVE

PACIFIC COAST

TR 77-1 <WAVE CLIMATE AT SELECTED LOCATIONS ALONG U.S. COASTS (JAN 1977)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ATLANTIC COAST;GAGES,WAVE;GULF COAST; PACIFIC COAST;WAVE CLIMATOLOGY

PACKERY CHANNEL,TX

MP 1-70 <EXPERIMENTAL DUNES OF THE TEXAS COAST (JAN 1970)
AUTHOR(S)→ GAGE,B.O.
KEYWORDS→ BARRIER ISLANDS;CORPUS CHRISTI PASS,TX;DUNES;FENCES,SAND;GALVESTON ISLAND,TX;NORTH PADRE ISLAND,TX;PACKERY CHANNEL,TX;VEGETATION

PADRE ISLAND,TX

MP 9-75 <CONSTRUCTION AND STABILIZATION OF COASTAL FOREDUNES WITH VEGETATION: PADRE ISLAND, TEXAS (SEP 1975)
AUTHOR(S)→ APPAN,S.G.; DAHL,B.E.; FALL,B.A.; LOHSE,A.
KEYWORDS→ FENCES,SAND;PADRE ISLAND,TX;VEGETATION

MR 77-8 <MONITORING OF FOREDUNES ON PADRE ISLAND, TEXAS (JUL 1977)
AUTHOR(S)→ DAHL,B.E.; GOEN,J.P.
KEYWORDS→ DUNES;PADRE ISLAND,TX;VEGETATION

MR 83-8 <POSTHURRICANE SURVEY OF EXPERIMENTAL DUNES ON PADRE ISLAND, TEXAS (MAR 1983)
AUTHOR(S)→ COTTER,P.C.; DAHL,B.E.; DRBAL,D.D.; WESTER,D.B.
KEYWORDS→ DUNES;HURRICANES;HURRICANES;PADRE ISLAND,TX;VEGETATION

PALM BEACH,FL

TM 29 <GEOMORPHOLOGY AND SEDIMENTS OF THE NEARSHORE CONTINENTAL SHELF, MIAMI TO PALM BEACH, FLORIDA (NOV 1969)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF; GEOMORPHOLOGY;ICONS;MIAMI,FL;PALM BEACH,FL; SEISMIC REFLECTION

TM 34 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER

CONTINENTAL SHELF, PALM BEACH TO CAPE KENNEDY, FLORIDA (FEB 1971)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CAPE KENNEDY,FL;GEOMORPHOLOGY;ICONS; PALM BEACH,FL;SEISMIC REFLECTION

PANAMA CITY BEACH,FL

MR 76-10 <THE BENTHIC FAUNA AND SEDIMENTS OF THE NEARSHORE ZONE OFF PANAMA CITY BEACH, FLORIDA (AUG 1976)
AUTHOR(S)→ SALOMAN,C.H.
KEYWORDS→ HURRICANES;PANAMA CITY BEACH,FL

MR 82-2 <LONG-TERM EFFECTS OF BEACH NOURISHMENT ON THE BENTHIC FAUNA OF PANAMA CITY,FLORIDA (JAN 1982)
AUTHOR(S)→ CULTER,J.K.; MANADEVAN,S.
KEYWORDS→ BEACH NOURISHMENT;FAUNA;PANAMA CITY BEACH,FL

MR 82-3 <BENTHIC COMMUNITY RESPONSE TO DREDGING BORROW PITS, PANAMA CITY BEACH,FLORIDA (MAR 1982)
AUTHOR(S)→ NAUGHTON,S.P.; SALOMAN,C.H.; TAYLOR,J.L.
KEYWORDS→ DREDGING;ECOLOGY;PANAMA CITY BEACH,FL

PARKER ESTUARY,MA

MP 1-74 <BED FORM DEVELOPMENT AND DISTRIBUTION PATTERN, PARKER AND ESSEX ESTUARIES, MASSACHUSETTS (FEB 1974)
AUTHOR(S)→ BOOTHROYD,J.C.; HUBBARD,D.K.
KEYWORDS→ BED FORMS;ESSEX ESTUARY,MA;PARKER ESTUARY,MA

PATENTS

MR 79-6 <AN ANNOTATED BIBLIOGRAPHY OF PATENTS RELATED TO COASTAL ENGINEERING (NOV 1979)
AUTHOR(S)→ DICKEY,M.D.; LYLES,A.M.; RAY,R.E.
KEYWORDS→ BIBLIOGRAPHIES;PATENTS

PATUXENT RIVER,MD

MP 1-64 <CONCRETE BLOCK REVETMENT NEAR BENEDICT, MARYLAND (JAN 1964)
AUTHOR(S)→ HALL,J.V.,JR.; JACHOWSKI,R.A.
KEYWORDS→ ARMOR UNITS;BENEDICT,MD;CONCRETE BLOCKS;EROSION;PATUXENT RIVER,MD;REVETMENTS

TP 76-20 <LETHAL EFFECTS OF SUSPENDED SEDIMENTS ON ESTUARINE FISH (DEC 1976)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.
KEYWORDS→ FAUNA;FISH;MINERAL SOLIDS;PATUXENT

(APR 1977)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ PILES;WAVE TRANSFORMATION

TM 13 <THE STATISTICAL DISTRIBUTION OF OCEAN WAVE FORCES ON VERTICAL PILING (JUL 1965)
AUTHOR(S)→ BORGMAN,L.E.
KEYWORDS→ PILES;WAVE FORCES

TM 15 <ANALYSIS OF WAVE FORCES ON A 30-INCH DIAMETER PILE UNDER CONFUSED SEA CONDITIONS (OCT 1965)
AUTHOR(S)→ WILSON,B.W.
KEYWORDS→ GULF OF MEXICO;PILES;WAVE FORCES

TM 24 <TABLES OF THE STATISTICAL DISTRIBUTION OF OCEAN WAVE FORCES AND METHODS OF ESTIMATING DRAG AND MASS COEFFICIENTS (OCT 1967)
AUTHOR(S)→ BORGMAN,L.E.; BROWN,L.J.
KEYWORDS→ DRAG COEFFICIENTS;PILES;WAVE FORCES

TM 27 <CORROSION AND PROTECTION OF STEEL PILING IN SEAWATER (MAY 1969)
AUTHOR(S)→ WATKINS,L.L.
KEYWORDS→ CATHODIC PROTECTION;CONCRETE JACKETS; PILES;PROTECTIVE COATINGS

TP 78-1 <WAVE TRANSFORMATION AT ISOLATED VERTICAL PILES IN SHALLOW WATER (MAR 1978)
AUTHOR(S)→ HALLERMEIER,R.J.; RAY,R.E.
KEYWORDS→ PILES;RUNUP,WAVE;WAVE FORCES;WAVE TRANSFORMATION

PIPELINES

MR 77-2 <MARINE PIPELINES: AN ANNOTATED BIBLIOGRAPHY (MAR 1977)
AUTHOR(S)→ BOWIE,G.L.; WIEGEL,R.L.
KEYWORDS→ BIBLIOGRAPHIES;PIPELINES

TP 77-11 <FORCES EXERTED BY WAVES ON A PIPELINE AT OR NEAR THE OCEAN BOTTOM (OCT 1977)
AUTHOR(S)→ BOWIE,G.L.
KEYWORDS→ DRAG FORCES;LIFT FORCES;PIPELINES; WAVE FORCES

PISMO CLAMS

MP 8-75 <EFFECTS OF ENGINEERING ACTIVITIES ON THE ECOLOGY OF PISMO CLAMS (SEP 1975)
AUTHOR(S)→ NYBAKKEN,J.; STEPHENSON,M.
KEYWORDS→ MONTEREY BAY,CA;PISMO CLAMS

PISTON-TYPE WAVE GENERATOR

R 4-71 <WAVES GENERATED BY A PISTON-TYPE WAVEMAKER (SEP 1971)
AUTHOR(S)→ MADSEN,O.S.

KEYWORDS→ MATHEMATICAL MODELS;PISTON-TYPE WAVE
GENERATOR;WAVE CHARACTERISTICS

PLUM ISLAND,MA

MR 77-5 <ANALYSIS OF SHORT-TERM VARIATIONS IN BEACH
MORPHOLOGY (AND CONCURRENT DYNAMIC PROCESSES)
FOR SUMMER AND WINTER PERIODS, 1971-72, PLUM
ISLAND, MASSACHUSETTS (MAR 1977)
AUTHOR(S)→ ABELE,R.W.,JR.
KEYWORDS→ CURRENTS;METEOROLOGICAL DATA;PLUM
ISLAND,MA;PROFILES;WAVE CHARACTERISTICS

TM 40 <PLEISTOCENE-HOLOCENE SEDIMENTS INTERPRETED BY
SEISMIC REFRACTION AND WASH-BORE SAMPLING,
PLUM ISLAND-CASTLE NECK, MASSACHUSETTS (JUL
1973)
AUTHOR(S)→ RHODES,E.G.
KEYWORDS→ GEOMORPHOLOGY;PLUM ISLAND,MA;SEISMIC
REFLECTION

POINT ARGUELLO,CA

TM 19 <BUDGET OF LITTORAL SANDS IN THE VICINITY OF
POINT ARGUELLO, CALIFORNIA (DEC 1966)
AUTHOR(S)→ BOWEN,A.J.; INMAN,D.L.
KEYWORDS→ BUDGET,SEDIMENT;POINT ARGUELLO,CA;
SEDIMENT TRANSPORT

POINT CONCEPTION,CA

MP 2-69 <RADIOISOTOPIC SAND TRACER STUDY, POINT
CONCEPTION, CALIFORNIA (MAY 1969)
AUTHOR(S)→ DUANE,D.B.; JUDGE,C.W.
KEYWORDS→ POINT CONCEPTION,CA;PROFILES;RIST

TM 33 <HEAVY MINERALS IN BEACH AND STREAM SEDIMENTS AS
INDICATORS OF SHORE PROCESSES BETWEEN MONTEREY
AND LOS ANGELES, CALIFORNIA (NOV 1970)
AUTHOR(S)→ JUDGE,C.W.
KEYWORDS→ HEAVY MINERALS;POINT CONCEPTION,CA;
SEDIMENT TRANSPORT;VENTURA,CA

POINT REYES,CA

TM 14 <SAND MOVEMENT ALONG A PORTION OF THE NORTHERN
CALIFORNIA COAST (OCT 1965)
AUTHOR(S)→ CHERRY,J.S
KEYWORDS→ BODEGA HEAD,CA;DRAKES BAY,CA;LITTORAL
BARRIERS;POINT REYES,CA;RUSSIAN RIVER,CA;
SEDIMENT TRANSPORT

KEYWORD INDEX

PORT MANSFIELD,TX

GITI 12 <A CASE HISTORY OF PORT MANSFIELD CHANNEL, TEXAS (MAY 1977)
AUTHOR(S)→ KIESLICH,J.M.
KEYWORDS→ PORT MANSFIELD,TX;SEDIMENT TRANSPORT; TIDAL INLETS

PORT STRUCTURES

MP 4-75 <CONCEPT ANALYSIS: OFFSHORE BREAKWATER-OIL STORAGE SYSTEM (APR 1975)
AUTHOR(S)→ PERAINO,J.; PLODOWSKI,T.
KEYWORDS→ BREAKWATERS;PETROLEUM STORAGE SYSTEM; PORT STRUCTURES

R 3-70 <COASTAL REGIME, RECENT U.S. EXPERIENCE (JUN 1970)
AUTHOR(S)→ SAVILLE,T.,JR.
KEYWORDS→ BREAKWATERS;CURRENTS;PORT STRUCTURES

PRESQUE ISLE,PA

MR 82-9 <GEOLOGICAL CHARACTER AND MINERAL RESOURCES OF SOUTH CENTRAL LAKE ERIE (OCT 1982)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;LAKE ERIE;PRESQUE ISLE,PA

R 3-66 <FACTORS AFFECTING BEACH NOURISHMENT REQUIREMENTS,PRESQUE ISLE PENINSULA, ERIE PENNSYLVANIA (FEB 1966)
AUTHOR(S)→ BERG,D.W.
KEYWORDS→ BEACH NOURISHMENT;GREAT LAKES;LAKE ERIE;PRESQUE ISLE,PA

R 1-69 <EFFECT OF PARTICLES SIZE AND DISTRIBUTION ON STABILITY OF ARTIFICIALLY FILLED BEACH, PRESQUE ISLE PENINSULA, PENNSYLVANIA (APR 1969)
AUTHOR(S)→ BERG,D.W.; DUANE,D.B.
KEYWORDS→ BEACH NOURISHMENT;PRESQUE ISLE,PA

TM 61 <NATURE AND GENESIS OF SOME STORM WASHOVER DEPOSITS (DEC 1975)
AUTHOR(S)→ SCHWARTZ,R.K.
KEYWORDS→ OUTER BANKS,NC;PRESQUE ISLE,PA; WASHOVER DEPOSITS

PRESSURE GAGES*

*SEE GAGES,WAVE

PRESSURE TREATED TIMBER

MR 76-4 <SIMPLIFIED DESIGN METHODS OF TREATED TIMBER STRUCTURES FOR SHORE, BEACH, AND MARINA CONSTRUCTION (MAR 1976)

KEYWORD INDEX

AUTHOR(S)→ AYERS,J.; STOKES,R.
KEYWORDS→ BULKHEADS;GROINS;MARINE ENGINEERING;
PIERS;PRESSURE TREATED TIMBER;SEAWALLS

PRESTON PROBE

R 3-71 <BOTTOM BOUNDARY SHEAR STRESSES ON A MODEL BEACH
(SEP 1971)
AUTHOR(S)→ ANDERSON,M.W.; TELEKI,P.G.
KEYWORDS→ PRESTON PROBE;SHEAR STRESSES

PROFILES

CETA 79-2 <A METHOD FOR ESTIMATING LONG-TERM EROSION RATES
FROM A LONG-TERM RISE IN WATER LEVEL (MAY 1979)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ EROSION;PROFILES;SEDIMENT TRANSPORT

CETA 81-4 <PREDICTING ADJUSTMENTS IN SHORE AND OFFSHORE
SAND PROFILES ON THE GREAT LAKES (JAN 1981)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN;
PROFILES

CETA 81-11 <FAST, ACCURATE TWO-PERSON BEACH SURVEYS (AUG
1981)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ PROFILES;SURVEYING

MP 6-64 <BEACH CHANGES AT VIRGINIA BEACH, VIRGINIA (NOV
1964)
AUTHOR(S)→ HARRISON,W.; WAGNER,K.A.
KEYWORDS→ PROFILES;SHORE PROCESSES;VIRGINIA
BEACH,VA

MP 2-69 <RADIOISOTOPIC SAND TRACER STUDY, POINT
CONCEPTION, CALIFORNIA (MAY 1969)
AUTHOR(S)→ DUANE,D.B.; JUDGE,C.W.
KEYWORDS→ POINT CONCEPTION,CA;PROFILES;RIST

MP 3-69 <PIPE PROFILE DATA AND WAVE OBSERVATIONS FROM
THE CERC BEACH EVALUATION PROGRAM,
JANUARY-MARCH 1968 (SEP 1969)
AUTHOR(S)→ GALVIN,C.J.,JR.; URBAN,H.D.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION
PROGRAM-CERC;JONES BEACH,NY;LONG BEACH
ISLAND,NJ;LONG ISLAND,NY;LUDLAM ISLAND,NJ;
PROFILES;SHORE PROCESSES;WESTHAMPTON BEACH,NY

MP 10-75 <BEACH PROFILE CHANGES: EAST COAST OF LAKE
MICHIGAN, 1970-72 (OCT 1975)
AUTHOR(S)→ DAVIS,R.A.,JR.; FINGLETON,W.G.;
PRITCHETT,P.C.
KEYWORDS→ BLUFFS;LAKE MICHIGAN;LONGSHORE BARS;
PROFILES

MP 11-75 <SAND LEVEL CHANGES ON TORREY PINES BEACH,
CALIFORNIA (DEC 1975)
AUTHOR(S)→ INMAN,D.L.; NORDSTROM,C.E.

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R 11-74 <LAB PROFILE AND REFLECTION CHANGES FOR H/L = 0.02 (JUN 1974)
AUTHOR(S)→ CHESNUTT,C.B.; GALVIN,C.J.,JR.
KEYWORDS→ MOVABLE-BED MODELING;PROFILES

R 4-75 <TESTS ON THE EQUILIBRIUM PROFILES OF MODEL BEACHES AND THE EFFECTS OF GRAIN SHAPE AND SIZE DISTRIBUTION (DEC 1975)
AUTHOR(S)→ CHESNUTT,C.B.; COLLINS,J.I.
KEYWORDS→ MOVABLE-BED MODELING;PROFILES

R 78-4 <BEACH AND NEARSHORE PROCESSES IN SOUTHEASTERN FLORIDA (FEB 1978)
AUTHOR(S)→ DEWALL,A.E.; RICHTER,J.J.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;HOLLYWOOD,FL;JUPITER,FL;LEO; PROFILES;SEDIMENT TRANSPORT

R 78-6 <NEARSHORE DISPOSAL: ONSHORE SEDIMENT TRANSPORT (FEB 1978)
AUTHOR(S)→ MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;PROFILES;SEDIMENT TRANSPORT

R 78-9 <SPATIAL AND TEMPORAL CHANGES IN NEW JERSEY BEACHES (FEB 1978)
AUTHOR(S)→ CZERNIAK,M.T.; EVERTS,C.H.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES; STORMS

R 78-11 <SOME DATA POINTS ON SHORELINE RETREAT ATTRIBUTABLE TO COASTAL SUBSIDENCE (MAR 1978)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;PROFILES; SUBMERGENCE

R 79-2 <THE EFFECTS OF THE 19 DECEMBER 1977 COASTAL STORM ON BEACHES IN NORTH CAROLINA AND NEW JERSEY (JAN 1979)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ CURRENTS;DARE COUNTY,NC;DATA COLLECTION;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES;STORMS

R 81-3 <A PROFILE ZONATION FOR SEASONAL SAND BEACHES FROM WAVE CLIMATE (APR 1981)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ PROFILES;SHOALING;WAVE CLIMATOLOGY

TM 49 <ANALYSIS AND INTERPRETATION OF LITTORAL ENVIRONMENT OBSERVATION (LEO) AND PROFILE DATA ALONG THE WESTERN PANHANDLE COAST OF FLORIDA (MAR 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ AERIAL PHOTOGRAPHY;CURRENTS; GEOMORPHOLOGY;LEO;PROFILES;STORMS

TM 58 <SURF OBSERVATIONS AND LONGSHORE CURRENT PREDICTION (NOV 1975)

PROFILES;SUBMERGENCE

TP 80-7 <PREDICTION OF SHORE RETREAT AND NEARSHORE PROFILE ADJUSTMENTS TO RISING WATER LEVELS ON THE GREAT LAKES (OCT 1980)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN; PROFILES

TR 76-1 <OBSERVATIONS OF BARRED COASTAL PROFILES UNDER THE INFLUENCE OF RISING WATER LEVELS, EASTERN LAKE MICHIGAN, 1967-71 (JAN 1976)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;LONGSHORE BARS;PENTWATER HARBOR,MI;PROFILES

TR 82-1 <BEACH PROFILE ANALYSIS SYSTEM (JUN 1982)
AUTHOR(S)→ DEWALL,A.E.; FLEMING,M.V.; FRENCH,D.; LAWLER,T.J.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC; MATHEMATICAL MODELS;PROFILES

PROTECTIVE COATINGS

TM 27 <CORROSION AND PROTECTION OF STEEL PILING IN SEAWATER (MAY 1969)
AUTHOR(S)→ WATKINS,L.L.
KEYWORDS→ CATHODIC PROTECTION;CONCRETE JACKETS; PILES;PROTECTIVE COATINGS

PT. MUGU,CA

R 9-73 <TIME-INTERVAL PHOTOGRAPHY OF LITTORAL PHENOMENA (JUL 1973)
AUTHOR(S)→ BERG,D.W.; HAWLEY,E.F.
KEYWORDS→ NEWPORT,CA;PHOTOGRAPHY;PT. MUGU,CA

R 81-12 <VISUALLY OBSERVED WAVE DATA AT PT. MUGU, CALIFORNIA (DEC 1981)
AUTHOR(S)→ SCHNEIDER,C.; WEGGEL,J.R.
KEYWORDS→ LEO;PT. MUGU,CA

TM 44 <SPATIAL AND TEMPORAL VARIATIONS IN GEOMETRIC AND MATERIAL PROPERTIES OF A NATURAL BEACH (JUN 1974)
AUTHOR(S)→ JAMES,W.R.; KRUMBEIN,W.C.
KEYWORDS→ PT. MUGU,CA;SHORE PROCESSES

TM 58 <SURF OBSERVATIONS AND LONGSHORE CURRENT PREDICTION (NOV 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ CURRENTS;GEOMORPHOLOGY;LEO;PROFILES; PT. MUGU,CA

TP 77-7 <EVALUATION OF THE COMPUTATION OF WAVE DIRECTION WITH THREE-GAGE ARRAYS (JUL 1977)
AUTHOR(S)→ ESTEVA,D.C.
KEYWORDS→ GAGES,WAVE;PT. MUGU,CA

AD-A145 404 BIBLIOGRAPHY OF PUBLICATIONS PRIOR TO JULY 1983 OF THE COASTAL ENGINEERIN..(U) COASTAL ENGINEERING RESEARCH CNNTER VICKSBURG MS A SZUWALSKI ET AL. MAR 84 4/4

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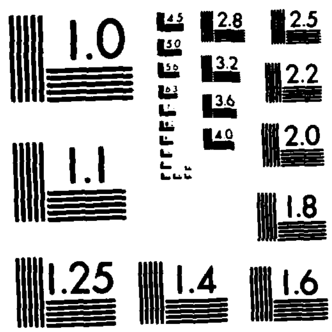

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AUTHOR(S)→ CHESNUTT,C.B.; STAFFORD,R.P.
KEYWORDS→ MOVABLE-BED MODELING;PROFILES;
REFLECTION,WAVE;WAVE CLIMATOLOGY;WAVE TANKS

R 82-1 <CALCULATION OF TRAPPED REFLECTED WAVES (FEB 1982)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ REFLECTION,WAVE;WAVE CHARACTERISTICS

R 82-2 <LONG-WAVE ENERGY TRAPPING (FEB 1982)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ REFLECTION,WAVE;WAVE CHARACTERISTICS

TP 76-8 <WAVE REFLECTION AND TRANSMISSION AT PERMEABLE
BREAKWATERS (JUL 1976)
AUTHOR(S)→ CROSS,R.H.,III; SOLLITT,C.K.
KEYWORDS→ BREAKWATERS;REFLECTION,WAVE;
TRANSMISSION,WAVE

TP 76-17 <FLOATING BREAKWATER FIELD ASSESSMENT PROGRAM,
FRIDAY HARBOR, WASHINGTON (OCT 1976)
AUTHOR(S)→ ADEE,B.H.; CHRISTENSEN,D.R.;
RICHEY,E.P.
KEYWORDS→ ATTENUATION,WAVE;BREAKWATERS;FLOATING
BREAKWATERS;FRIDAY HARBOR,WA;REFLECTION,WAVE;
TRANSMISSION,WAVE

TP 81-1 <ESTIMATION OF WAVE REFLECTION AND ENERGY
DISSIPATION COEFFICIENTS FOR BEACHES,
REVETMENTS, AND BREAKWATERS (FEB 1981)
AUTHOR(S)→ AHRENS,J.P.; SEELIG,W.N.
KEYWORDS→ REFLECTION,WAVE;WAVE ENERGY

TR 80-1 <TWO-DIMENSIONAL TESTS OF WAVE TRANSMISSION AND
REFLECTION CHARACTERISTICS OF LABORATORY
BREAKWATERS (JUN 1980)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;MATHEMATICAL MODELS;
REFLECTION,WAVE;TRANSMISSION,WAVE

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CETA 81-12 <PREDICTION OF WAVE REFRACTION AND SHOALING
USING TWO NUMERICAL MODELS (AUG 1981)
AUTHOR(S)→ HUBERTZ,J.M.
KEYWORDS→ MATHEMATICAL MODELS;REFRACTION,WAVE;
SHOALING

MR 80-6 <A NUMERICAL MODEL FOR PREDICTING SHORELINE
CHANGES (JUL 1980)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ CURRENTS;DIFFRACTION,WAVE;GREAT LAKES;
HOLLAND HARBOR,MI;MATHEMATICAL MODELS;
REFRACTION,WAVE;SHORE PROCESSES

R 78-3 <SEDIMENT BUDGET ANALYSIS WRIGHTSVILLE BEACH TO
KURE BEACH, N.C. (FEB 1978)
AUTHOR(S)→ JARRETT,J.T.
KEYWORDS→ BUDGET,SEDIMENT;LONGSHORE ENERGY FLUX;
REFRACTION,WAVE;SEDIMENT TRANSPORT

R 79-6 <PREDICTING BEACH PLANFORMS IN THE LEE OF A BREAKWATER (AUG 1979)
AUTHOR(S)→ PERLIN,M.
KEYWORDS→ BREAKWATERS;DIFFRACTION,WAVE; MATHEMATICAL MODELS;REFRACTION,WAVE

TM 6 <DEVELOPMENT OF A METHOD FOR NUMERICAL CALCULATION OF WAVE REFRACTION (OCT 1964)
AUTHOR(S)→ HARRISON,W.; WILSON,W.S.
KEYWORDS→ HINDCASTING;REFRACTION,WAVE;VIRGINIA BEACH,VA

TM 17 <A METHOD FOR CALCULATING AND PLOTTING SURFACE WAVE RAYS (FEB 1966)
AUTHOR(S)→ WILSON,W.S.
KEYWORDS→ MATHEMATICAL MODELS;REFRACTION,WAVE; VIRGINIA BEACH,VA

TM 18 <CORRELATION OF LITTORAL TRANSPORT WITH WAVE ENERGY ALONG SHORES OF NEW YORK AND NEW JERSEY (NOV 1966)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ REFRACTION,WAVE;SEDIMENT TRANSPORT; WAVE ENERGY

TM 47 <WAVE REFRACTION PHENOMENA OVER THE CONTINENTAL SHELF NEAR THE CHESAPEAKE BAY ENTRANCE (OCT 1974)
AUTHOR(S)→ CHAO,Y.
KEYWORDS→ CHESAPEAKE BAY;CHESAPEAKE LIGHT STATION;MATHEMATICAL MODELS;REFRACTION,WAVE

TM 48 <THE USE OF AERIAL PHOTOGRAPHY IN THE STUDY OF WAVE CHARACTERISTICS IN THE COASTAL ZONE (JAN 1975)
AUTHOR(S)→ HARRIS,D.L.; MCCLENAN,C.M.
KEYWORDS→ AERIAL PHOTOGRAPHY;DIFFRACTION,WAVE; REFRACTION,WAVE

TM 57 <EFFECTS OF A BREAKWATER ON NEARSHORE CURRENTS DUE TO BREAKING WAVES (NOV 1975)
AUTHOR(S)→ LIU,P.L.; MEI,C.C.
KEYWORDS→ BREAKWATERS;CURRENTS;DIFFRACTION,WAVE; REFRACTION,WAVE

TM 59 <SIMPLIFIED METHOD FOR ESTIMATING REFRACTION AND SHOALING EFFECTS ON OCEAN WAVES (NOV 1975)
AUTHOR(S)→ MCCLENAN,C.M.
KEYWORDS→ REFRACTION,WAVE;SHOALING

TP 80-3 <ESTIMATING NEARSHORE CONDITIONS FOR IRREGULAR WAVES (JUN 1980)
AUTHOR(S)→ AHRENS,J.P.; SEELIG,W.N.
KEYWORDS→ REFRACTION,WAVE;WAVE CLIMATOLOGY

REMOTE SENSING

MP 2-73 <AN ANNOTATED BIBLIOGRAPHY OF AERIAL REMOTE SENSING IN COASTAL ENGINEERING (MAY 1973)

AUTHOR(S)→ BRUNO,R.O.; GOLDSTEIN,A.M.; STAFFORD,D.B.
KEYWORDS→ BIBLIOGRAPHIES;REMOTE SENSING

MR 76-2 <AN ERTS-1 STUDY OF COASTAL FEATURES ON THE NORTH CAROLINA COAST (JAN 1976)
AUTHOR(S)→ BERG,D.W.; MILLER,G.H.
KEYWORDS→ ERTS;MULTISPECTRAL SCANNER;REMOTE SENSING;SATELLITES

R 4-72 <USE OF SATELLITES IN COASTAL ENGINEERING (AUG 1972)
AUTHOR(S)→ BERG,D.W.; JARMAN,J.W.; MAGOON,O.T.
KEYWORDS→ REMOTE SENSING;SATELLITES

R 5-73 <USE OF EARTH RESOURCES TECHNOLOGY SATELLITE (ERTS-1) IN COASTAL STUDIES (APR 1973)
AUTHOR(S)→ MAGOON,O.T.
KEYWORDS→ AERIAL PHOTOGRAPHY;ERTS;REMOTE SENSING

R 17-73 <REMOTE SENSING IN THE STUDY OF COASTAL PROCESSES (JUL 1973)
AUTHOR(S)→ MAGOON,O.T.; PIRIE,D.M.
KEYWORDS→ RADAR;REMOTE SENSING;SEDIMENT TRANSPORT

R 18-73 <COASTAL APPLICATIONS OF THE ERTS-A SATELLITE (JUL 1973)
AUTHOR(S)→ JARMAN,J.W.; MAGOON,O.T.; PIRIE,D.M.
KEYWORDS→ ERTS;REMOTE SENSING

R 2-74 <A STUDY OF OCEANIC MIXING WITH DYES AND MULTISPECTRAL PHOTOGRAMMETRY (OCT 1974)
AUTHOR(S)→ PRINS,D.A.; TELEKI,P.G.; WHITE,J.W.
KEYWORDS→ CURRENTS;REMOTE SENSING

R 3-74 <ON THE NEARSHORE CIRCULATION OF THE GULF OF CARPENTARIA, AUSTRALIA- A STUDY IN USES OF SATELLITE IMAGERY (ERTS) IN REMOTELY ACCESSIBLE AREAS (OCT 1974)
AUTHOR(S)→ RABCHEVSKY,G.A.; TELEKI,P.G.; WHITE,J.W.
KEYWORDS→ AUSTRALIA;ERTS;GULF OF CARPENTARIA; REMOTE SENSING

R 9-74 <PHOTOGRAMMETRIC EXPERIMENTS ON NEARSHORE MIXING AND DIFFUSION (AUG 1974)
AUTHOR(S)→ PRINS,D.A.; TELEKI,P.G.
KEYWORDS→ AERIAL PHOTOGRAPHY;CURRENTS;REMOTE SENSING

R 81-4 <TRACKING OF A WARM WATER RING (JUL 1981)
AUTHOR(S)→ LICHY,D.E.; MANCINI,L.J.; MATTIE,M.G.
KEYWORDS→ REMOTE SENSING;SYNTHETIC APERTURE RADAR(SAR)

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MP 1-64 <CONCRETE BLOCK REVETMENT NEAR BENEDICT, MARYLAND (JAN 1964)
AUTHOR(S)→ HALL,J.V.,JR.; JACHOWSKI,R.A.

KEYWORDS→ ARMOR UNITS;BENEDICT,MD;CONCRETE BLOCKS;EROSION;PATUXENT RIVER,MD;REVETMENTS

MR 76-7 <SURVEY OF COASTAL REVETMENT TYPES (MAY 1976)
AUTHOR(S)→ MCCARTNEY,B.L.
KEYWORDS→ FILTERS;REVETMENTS

R 2-67 <WAVE TESTS OF REVETMENT USING MACHINE-PRODUCED INTERLOCKING BLOCKS (AUG 1967)
AUTHOR(S)→ HALL,J.V.,JR.
KEYWORDS→ INTERLOCKING BLOCKS;REVETMENTS

R 3-67 <ROCK MOVEMENT IN LARGE-SCALE TESTS OF RIPRAP STABILITY UNDER WAVE ACTION (AUG 1967)
AUTHOR(S)→ SAVILLE,T.,JR.
KEYWORDS→ REVETMENTS;RIPRAP

R 78-5 <EVALUATION OF A CONCRETE BUILDING BLOCK REVETMENT (FEB 1978)
AUTHOR(S)→ GILES,M.L.
KEYWORDS→ ARMOR UNITS;CONCRETE BLOCKS;REVETMENTS

TM 55 <STABILITY OF GOBI BLOCK REVETMENT TO WAVE ATTACK (OCT 1975)
AUTHOR(S)→ AHRENS,J.P.; MCCARTNEY,B.L.
KEYWORDS→ ARMOR UNITS;GOBI BLOCKS;HYDRAULIC MODELS;REVETMENTS

TP 81-5 <DESIGN OF RIPRAP REVETMENTS FOR PROTECTION AGAINST WAVE ATTACK (DEC 1981)
AUTHOR(S)→ AHRENS,J.P.
KEYWORDS→ ARMOR UNITS;REVETMENTS;RIPRAP;RUNUP,WAVE

RINCON ISLAND,CA

MR 78-3 <ECOLOGICAL EFFECTS OF AN ARTIFICIAL ISLAND, RINCON ISLAND, PUNTA GORDA, CALIFORNIA (SEP 1978)
AUTHOR(S)→ DEWIT,L.A.; JOHNSON,G.F.
KEYWORDS→ ARMOR UNITS;ARTIFICIAL ISLANDS;ECOLOGY;FISH;RINCON ISLAND,CA

R 78-14 <ECOLOGICAL EFFECTS OF AN ARTIFICIAL ISLAND (NOV 1978)
AUTHOR(S)→ DEWIT,L.A.; HURME,A.K.; JOHNSON,G.F.; WALES,B.A.
KEYWORDS→ ARTIFICIAL ISLANDS;FAUNA;FISH;RINCON ISLAND,CA

R 79-4 <RUBBLE-MOUND STRUCTURES AS ARTIFICIAL REEFS (AUG 1979)
AUTHOR(S)→ HURME,A.K.
KEYWORDS→ ARTIFICIAL REEFS;BREAKWATERS;RINCON ISLAND,CA

TM 43 <ENGINEERING AND ECOLOGICAL EVALUATION OF ARTIFICIAL-ISLAND DESIGN, RINCON ISLAND, PUNTA GORDA, CALIFORNIA (MAR 1974)
AUTHOR(S)→ KEITH,J.M.; SKJEI,R.E.

RUNUP,WAVE
TP 82-3 <RIPRAP STABILITY SCALE EFFECTS (AUG 1982)
AUTHOR(S)→ AHRENS,J.P.; BRODERICK,L.L.
KEYWORDS→ RIPRAP;SCALE EFFECTS

RIST

*RADIOISOTOPIC SAND TRACER STUDY
MP 2-69 <RADIOISOTOPIC SAND TRACER STUDY, POINT CONCEPTION, CALIFORNIA (MAY 1969)
AUTHOR(S)→ DUANE,D.B.; JUDGE,C.W.
KEYWORDS→ POINT CONCEPTION,CA;PROFILES;RIST
MP 3-70 <RAPLOT II - COMPUTER PROGRAM FOR DATA PROCESSING AND GRAPHICAL DISPLAY FOR RADIOISOTOPIC SAND TRACER STUDY (MAY 1970)
AUTHOR(S)→ TURNER,P.A.
KEYWORDS→ MATHEMATICAL MODELS;RIST
MP 4-70 <TRACING SAND MOVEMENT IN THE LITTORAL ZONE: PROGRESS IN THE RADIOISOTOPIC SAND TRACER (RIST) STUDY,JULY 1968 -FEBRUARY 1969(AU G 1970)
AUTHOR(S)→ DUANE,D.B.
KEYWORDS→ RIST
R 5-71 <SYNOPTIC OBSERVATIONS OF SAND MOVEMENT (SEP 1971)
AUTHOR(S)→ DUANE,D.B.
KEYWORDS→ RIST;SEDIMENT TRANSPORT
R 6-71 <PROCESSING AND ANALYSIS OF RADIOISOTOPIC SAND TRACER (RIST) STUDY DATA (SEP 1971)
AUTHOR(S)→ ACREE,E.H.; BRASHEAR,H.R.; CASE,F.N.; DUANE,D.B.; TURNER,P.A.
KEYWORDS→ MATHEMATICAL MODELS;RIST;SEDIMENT TRANSPORT
TM 53 <USE OF THE RADIOISOTOPIC SAND TRACER (RIST) SYSTEM (JUN 1975)
AUTHOR(S)→ JUDGE,C.W.
KEYWORDS→ AMPHIBIOUS VEHICLES;RIST

ROCKAWAY BEACH,NY

R 78-10 <SEDIMENT HANDLING AND BEACH FILL DESIGN (FEB 1978)
AUTHOR(S)→ HOBSON,R.D.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;ROCKAWAY BEACH,NY
R 79-9 <IMPORTANCE OF HANDLING LOSSES TO BEACH FILL DESIGN (NOV 1979)
AUTHOR(S)→ HOBSON,R.D.; JAMES,W.R.
KEYWORDS→ BEACH NOURISHMENT;NEW RIVER INLET,NC; ROCKAWAY BEACH,NY

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SAND BAGS

MR 77-4 <A LABORATORY STUDY OF THE STABILITY OF SAND-FILLED NYLON BAG BREAKWATER STRUCTURES (MAR 1977)
AUTHOR(S)→ RAY,R.E.
KEYWORDS→ BREAKWATERS;SAND BAGS

SAND BYPASSING

R 83-7 <THE DESIGN OF WEIR SAND BYPASSING SYSTEMS (MAY 1983)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ SAND BYPASSING;WEIR JETTIES

SR-8 <WEIR SAND-BYPASSING SYSTEMS (APR 1981)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ JETTIES;SAND BYPASSING;WEIR JETTIES

TP 80-1 <TRANSPORT OF DREDGED SEDIMENT PLACED IN THE NEARSHORE ZONE - CURRITUCK SAND-BYPASS STUDY (PHASE I) (FEB 1980)
AUTHOR(S)→ MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS→ BEACH NOURISHMENT;NEW RIVER INLET,NC; SAND BYPASSING;SEDIMENT TRANSPORT

TR 82-4 <PERFORMANCE OF A SAND TRAP STRUCTURE AND EFFECTS OF IMPOUNDED SEDIMENTS, CHANNEL ISLANDS HARBOR, CALIFORNIA (OCT 1982)
AUTHOR(S)→ HOBSON,R.D.
KEYWORDS→ CHANNEL ISLANDS HARBOR,CA;SAND BYPASSING;SEDIMENT CHARACTERISTICS

SAND FENCES*

*SEE FENCES,SAND

SAND INVENTORY*

*SEE ICONS

SAND MINING

R 16-73 <COASTAL SAND MINING IN NORTHERN CALIFORNIA, U.S.A. (JUL 1973)
AUTHOR(S)→ HAUGEN,J.C.; MAGOON,O.T.; SLAON,R.L.
KEYWORDS→ SAND MINING

SAND RIPPLES

R 81-11 <MEASUREMENTS OF OSCILLATORY DRAG ON SAND RIPPLES (JAN 1982)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ BED FORMS;DRAG FORCES;SAND RIPPLES;

SEDIMENT TRANSPORT

TP 78-5 <SAND RIPPLE GROWTH IN AN OSCILLATORY-FLOW WATER TUNNEL (AUG 1978)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ BED FORMS;PROFILES;QUARTZ SAND;RIPPLES;SAND RIPPLES;SEDIMENT TRANSPORT

SAND SAMPLER

R 4-66 <A TRACTOR-MOUNTED SUSPENDED SAND SAMPLER (JUN 1966)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ INSTRUMENTATION;NAGS HEAD,NC;SAND SAMPLER;SEDIMENT TRANSPORT;VENTNOR,NJ

SAND TRACERS*

*SEE RIST(RADIOISOTOPIC SAND TRACER STUDY)

SANTA CRUZ HARBOR,CA

R 2-69 <PROTOTYPE INVESTIGATION OF STABILITY OF QUADRIPOD COVER LAYER,SANTA CRUZ HARBOR,CALIFORNIA (SEP 1969)
AUTHOR(S)→ MAGOON,O.T.; WEYMOUTH,O.F.
KEYWORDS→ ARMOR UNITS;QUADRIPODS;SANTA CRUZ HARBOR,CA

R 8-71 <EFFECT OF LONG PERIOD WAVES ON HYDROGRAPHIC SURVEYS (SEP 1971)
AUTHOR(S)→ MAGOON,O.T.; SARLIN,W.O.
KEYWORDS→ SANTA CRUZ HARBOR,CA;SURVEYING

SATELLITES

MR 76-2 <AN ERTS-1 STUDY OF COASTAL FEATURES ON THE NORTH CAROLINA COAST (JAN 1976)
AUTHOR(S)→ BERG,D.W.; MILLER,G.H.
KEYWORDS→ ERTS;MULTISPECTRAL SCANNER;REMOTE SENSING;SATELLITES

R 4-72 <USE OF SATELLITES IN COASTAL ENGINEERING (AUG 1972)
AUTHOR(S)→ BERG,D.W.; JARMAN,J.W.; MAGOON,O.T.
KEYWORDS→ REMOTE SENSING;SATELLITES

SAVANNAH,GA

R 79-5 <WAVE ACTION ON THE SAVANNAH TIDE GATES (AUG 1979)
AUTHOR(S)→ HAGAR,J.; ROBERTS,J.; WEGGEL,J.R.
KEYWORDS→ SAVANNAH,GA;TIDE GATES;TIDES;WAVE FORCES

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SEDIMENT TRANSPORT

*SEE ALSO SAND BY-PASSING AND/OR SHOALING

CETA 79-2 <A METHOD FOR ESTIMATING LONG-TERM EROSION RATES FROM A LONG-TERM RISE IN WATER LEVEL (MAY 1979)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ EROSION;PROFILES;SEDIMENT TRANSPORT

CETA 80-6 <A GUIDE FOR ESTIMATING LONGSHORE TRANSPORT RATE USING FOUR SPM METHODS (APR 1980)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ SEDIMENT TRANSPORT

CETA 81-2 <SEAWARD LIMIT OF SIGNIFICANT SAND TRANSPORT BY WAVES: AN ANNUAL ZONATION FOR SEASONAL PROFILES (JAN 1981)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ SEDIMENT TRANSPORT

CETA 81-6 <A METHOD TO FORECAST SEDIMENTATION RATES RESULTING FROM THE SETTLEMENT OF SUSPENDED SOLIDS WITHIN SEMIENCLOSED HARBORS (JUN 1981)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ DILLINGHAM HARBOR,AK;HARBORS;SEDIMENT TRANSPORT

CETA 81-10 <CRITICAL WAVE CONDITIONS FOR SAND MOTION INITIATION (JUL 1981)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ EROSION;SEDIMENT TRANSPORT

GITI 7 <MODEL MATERIALS EVALUATION; SAND TESTS; HYDRAULIC LABORATORY INVESTIGATION (JUN 1976)
AUTHOR(S)→ MCNAIR,E.C.
KEYWORDS→ HYDRAULIC MODELS;MOVABLE-BED MODELING; QUARTZ SAND;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 8 <HYDRAULICS AND DYNAMICS OF NEW CORPUS CHRISTI PASS, TEXAS: A CASE HISTORY, 1972-73 (JAN 1977)
AUTHOR(S)→ BEHRENS,E.W.; MASON,C.; WATSON,R.L.
KEYWORDS→ CORPUS CHRISTI PASS,TX;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 9 <HYDRAULICS AND DYNAMICS OF NEW CORPUS CHRISTI PASS, TEXAS: A CASE HISTORY, 1973-1975 (SEP 1976)
AUTHOR(S)→ BEHRENS,E.W.; WATSON,R.L.
KEYWORDS→ CORPUS CHRISTI PASS,TX;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 10 <HYDRAULICS AND DYNAMICS OF NORTH INLET, SOUTH CAROLINA, 1974-75 (SEP 1976)
AUTHOR(S)→ FINLEY,R.J.
KEYWORDS→ NORTH INLET,SC;SEDIMENT TRANSPORT; TIDAL INLETS

GITI 12 <A CASE HISTORY OF PORT MANSFIELD CHANNEL, TEXAS (MAY 1977)
AUTHOR(S)→ KIESLICH,J.M.
KEYWORDS→ PORT MANSFIELD,TX;SEDIMENT TRANSPORT;

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TIDAL INLETS

GITI 17 <AN EVALUATION OF MOVABLE-BED TIDAL INLET MODELS (FEB 1979)
AUTHOR(S)→ JAIN,S.C.; KENNEDY,J.F.
KEYWORDS→ MOVABLE-BED MODELING;SEDIMENT TRANSPORT;TIDAL INLETS

MP 1-66 <INTERAGENCY CONFERENCE ON CONTINENTAL SHELF RESEARCH (JAN 1966)
AUTHOR(S)→ TANEY,N.E.
KEYWORDS→ CONTINENTAL SHELF;GEOMORPHOLOGY; SEDIMENT TRANSPORT

MP 1-71 <LONGSHORE SEDIMENT TRANSPORT RATES: A COMPILATION OF DATA (SEP 1971)
AUTHOR(S)→ DAS,M.M.
KEYWORDS→ ANAHEIM BAY,CA;SEDIMENT TRANSPORT; SILVER STRAND,CA;SOUTH LAKE WORTH INLET,FL

MR 76-1 <EFFECTS OF SUSPENDED SOLIDS ON SELECTED ESTUARINE PLANKTON (JAN 1976)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.; SHERK,J.A.,JR.
KEYWORDS→ BIOLOGICAL COMPONENTS;DREDGING; PHYTOPLANKTON;SEDIMENT TRANSPORT

MR 77-1 <A POSITIVE DISPLACEMENT OSCILLATORY WATER TUNNEL (FEB 1977)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ SEDIMENT TRANSPORT;WATER TUNNEL

MR 77-10 <MATHEMATICAL MODELING OF SHORELINE EVOLUTION (OCT 1977)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;SHORE PROCESSES

MR 81-4 <MOVABLE-BED LABORATORY EXPERIMENTS COMPARING RADIATION STRESS AND ENERGY FLUX FACTOR AS PREDICTORS OF LONGSHORE TRANSPORT RATE (APR 1981)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ LONGSHORE ENERGY FLUX;MOVABLE-BED MODELING;SEDIMENT TRANSPORT

MR 83-10 <A NUMERICAL MODEL TO SIMULATE SEDIMENT TRANSPORT IN THE VICINITY OF COASTAL STRUCTURES (MAY 1983)
AUTHOR(S)→ DEAN,R.G.; PERLIN,M.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

R 4-66 <A TRACTOR-MOUNTED SUSPENDED SAND SAMPLER (JUN 1966)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ INSTRUMENTATION;NAGS HEAD,NC;SAND SAMPLER;SEDIMENT TRANSPORT;VENTNOR,NJ

R 5-71 <SYNOPTIC OBSERVATIONS OF SAND MOVEMENT (SEP 1971)
AUTHOR(S)→ DUANE,D.B.
KEYWORDS→ RIST;SEDIMENT TRANSPORT

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R 6-71 <PROCESSING AND ANALYSIS OF RADIOISOTOPIC SAND
TRACER (RIST) STUDY DATA (SEP 1971)
AUTHOR(S)→ ACREE,E.H.; BRASHEAR,H.R.;
CASE,F.N.; DUANE,D.B.; TURNER,P.A.
KEYWORDS→ MATHEMATICAL MODELS;RIST;SEDIMENT
TRANSPORT

R 7-71 <A CLASS OF PROBABILITY MODELS FOR LITTORAL
DRIFT (SEP 1971)
AUTHOR(S)→ JAMES,W.R.
KEYWORDS→ SEDIMENT TRACER;SEDIMENT TRANSPORT

R 12-73 <A GROSS LONGSHORE TRANSPORT RATE FORMULA (JUL
1973)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

R 13-73 <SUSPENDED SEDIMENT AND LONGSHORE SEDIMENT
TRANSPORT DATA REVIEW (JUL 1973)
AUTHOR(S)→ DAS,M.M.
KEYWORDS→ SEDIMENT TRANSPORT

R 14-73 <LONGSHORE TRANSPORT OF SUSPENDED SEDIMENT (JUL
1973)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ NAGS HEAD,NC;SEDIMENT TRANSPORT;
VENTNOR,NJ

R 17-73 <REMOTE SENSING IN THE STUDY OF COASTAL
PROCESSES (JUL 1973)
AUTHOR(S)→ MAGOON,O.T.; PIRIE,D.M.
KEYWORDS→ RADAR;REMOTE SENSING;SEDIMENT TRANSPORT

R 20-73 <AN INTRODUCTION TO OCEANIC WATER MOTIONS AND
THEIR RELATION TO SEDIMENT TRANSPORT (1973)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ FLUID FLOW;SEDIMENT TRANSPORT

R 21-73 <WAVE BOUNDARY LAYERS AND THEIR RELATION TO
SEDIMENT TRANSPORT (1973)
AUTHOR(S)→ TELEKI,P.G.
KEYWORDS→ BOUNDARY LAYER FLOW;SEDIMENT TRANSPORT

R 24-73 <ONSHORE TRANSPORTATION OF CONTINENTAL SHELF
SEDIMENT: ATLANTIC SOUTHEASTERN UNITED STATES
(1973)
AUTHOR(S)→ FIELD,M.E.; PILKEY,O.H.
KEYWORDS→ CONTINENTAL SHELF;ICONS;SEDIMENT
TRANSPORT

R 25-73 <CONTROLLING LITTORAL DRIFT TO PROTECT BEACHES,
DUNES, ESTUARIES, AND HARBOR ENTRANCES (
1973)
AUTHOR(S)→ JACHOWSKI,R.A.; VALLIANOS,L.;
WATTS,G.M.
KEYWORDS→ BEACH NOURISHMENT;SEDIMENT TRANSPORT

R 26-73 <REPORT ON CONTROLLING LITTORAL DRIFT TO PROTECT
BEACHES, DUNES, ESTUARIES AND HARBOR ENTRANCES
(1973)
AUTHOR(S)→ SAVILLE,T.,JR.

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KEYWORDS→ BEACH NOURISHMENT;SEDIMENT TRANSPORT
R 1-74 <PARTICLE OVERPASSING ON FLAT GRANULAR BOUNDARIES (NOV 1974)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ BEDLOAD;SEDIMENT TRANSPORT
R 77-1 <SEDIMENTATION IN A HALF-TIDE HARBOR (FEB 1977)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ DILLINGHAM HARBOR,AK;HARBORS;SEDIMENT TRANSPORT;SHOALING
R 77-5 <WAVE ENTRAINMENT OF SEDIMENT FROM RIPPLED BEDS (MAY 1977)
AUTHOR(S)→ GLOVER,J.R.; KENNEDY,J.F.; LOCHER,F.A.; NAKATO,T.
KEYWORDS→ BED FORMS;SEDIMENT TRANSPORT
R 77-6 <LONGSHORE TRANSPORT AT A TOTAL LITTORAL BARRIER (JUL 1977)
AUTHOR(S)→ BRUNO,R.O.; GABLE,C.G.
KEYWORDS→ CHANNEL ISLANDS HARBOR,CA;SEDIMENT TRANSPORT
R 78-3 <SEDIMENT BUDGET ANALYSIS WRIGHTSVILLE BEACH TO KURE BEACH, N.C. (FEB 1978)
AUTHOR(S)→ JARRETT,J.T.
KEYWORDS→ BUDGET,SEDIMENT;LONGSHORE ENERGY FLUX; REFRACTION,WAVE;SEDIMENT TRANSPORT
R 78-4 <BEACH AND NEARSHORE PROCESSES IN SOUTHEASTERN FLORIDA (FEB 1978)
AUTHOR(S)→ DEWALL,A.E.; RICHTER,J.J.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;BOCA RATON,FL;HOLLYWOOD,FL;JUPITER,FL;LEO; PROFILES;SEDIMENT TRANSPORT
R 78-6 <NEARSHORE DISPOSAL: ONSHORE SEDIMENT TRANSPORT (FEB 1978)
AUTHOR(S)→ MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS→ BEACH NOURISHMENT;DREDGING;NEW RIVER INLET,NC;PROFILES;SEDIMENT TRANSPORT
R 78-8 <SEDIMENTS IMPOUNDED BY AN OFFSHORE BREAKWATER (FEB 1978)
AUTHOR(S)→ BRUNO,R.O.; GABLE,C.G.; WATTS,G.M.
KEYWORDS→ BREAKWATERS;CHANNEL ISLANDS HARBOR,CA; SEDIMENT TRANSPORT
R 79-3 <BEACH BEHAVIOR IN THE VICINITY OF GROINS-TWO NEW JERSEY FIELD EXAMPLES (AUG 1979)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ CAPE MAY,NJ;GROINS;SEA ISLE CITY,NJ; SEDIMENT TRANSPORT
R 79-10 <NUMERICAL MODEL INVESTIGATION OF SELECTED TIDAL INLET-BAY SYSTEM CHARACTERISTICS (NOV 1979)
AUTHOR(S)→ SEELIG,W.N.; SORENSEN,R.M.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;TIDAL INLETS
R 79-11 <USES FOR A CALCULATED LIMIT DEPTH TO BEACH

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EROSION (NOV 1979)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ EROSION;SEDIMENT TRANSPORT;SHOALING

R 79-13 <SAND BED FRICTION FACTORS FOR OSCILLATORY FLOWS (NOV 1979)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ BED FORMS;FRICTION FACTOR;SEDIMENT TRANSPORT;SHEAR STRESSES

R 80-3 <SAND MOTION INITIATION BY WATER WAVES: TWO ASYMPTOTES (NOV 1980)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ DRAG FORCES;EROSION;SEDIMENT TRANSPORT

R 81-6 <BARRIER ISLAND SEDIMENTATION STUDIES PROGRAM (OCT 1981)
AUTHOR(S)→ EVERTS,C.H.; FINKELSTEIN,K.; HANDS,E.B.; HOBSON,R.D.; HULMES,L.J.; MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ BARRIER ISLANDS;SEA LEVEL;SEDIMENT TRANSPORT

R 81-11 <MEASUREMENTS OF OSCILLATORY DRAG ON SAND RIPPLES (JAN 1982)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ BED FORMS;DRAG FORCES;SAND RIPPLES; SEDIMENT TRANSPORT

R 82-3 <BOTTOM SMOOTHING TO PREVENT NUMERICAL INSTABILITY (NOV 1981)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

R 82-5 <BEDLOAD AND WAVE THRUST COMPUTATIONS OF ALONGSHORE SAND TRANSPORT (AUG 1982)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;WAVE CHARACTERISTICS

R 82-6 <HINDERED BEDLOAD SETTLING AS A MODEL OF SAND BED PLANTATION BY WATER WAVES (NOV 1982)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ BEDLOAD;SEDIMENT TRANSPORT

R 83-1 <OSCILLATORY BEDLOAD TRANSPORT: DATA REVIEW AND SIMPLE FORMULATION (MAR 1983)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ BEDLOAD;SEDIMENT TRANSPORT

R 83-5 <ANALYSIS METHOD FOR STUDYING SEDIMENTATION PATTERNS (MAY 1983)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ MILL COVE,FL;SEDIMENT TRANSPORT; SHOALING

R 83-8 <SAND TRANSPORT LIMITS IN COASTAL STRUCTURE DESIGNS (MAY 1983)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT

R 83-11 <LOW-COST MEASUREMENTS OF SHORLINE CHANGES (MAY

KEYWORDS→ BED FORMS;DRAG COEFFICIENTS;DUNES;
RIPPLES;SEDIMENT TRANSPORT

TM 33 <HEAVY MINERALS IN BEACH AND STREAM SEDIMENTS AS INDICATORS OF SHORE PROCESSES BETWEEN MONTEREY AND LOS ANGELES, CALIFORNIA (NOV 1970)
AUTHOR(S)→ JUDGE,C.W.
KEYWORDS→ HEAVY MINERALS;POINT CONCEPTION,CA;
SEDIMENT TRANSPORT;VENTURA,CA

TM 62 <AN EFFECT OF PERMEABILITY ON SAND TRANSPORT BY WAVES (DEC 1975)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ HYDRAULIC MODELS;PERMEABILITY;RIPPLES;
SEDIMENT TRANSPORT

TP 76-6 <INVESTIGATION OF THE OPERATING CHARACTERISTICS OF THE IOWA SEDIMENT CONCENTRATION MEASURING SYSTEM (MAY 1976)
AUTHOR(S)→ GLOVER,J.R.; LOCHER,F.A.; NAKATO,T.
KEYWORDS→ INSTRUMENTATION;SEDIMENT TRANSPORT

TP 76-11 <GRAIN SHAPE AND SIZE DISTRIBUTION EFFECTS IN COASTAL MODELS (JUL 1976)
AUTHOR(S)→ CHESNUTT,C.B.; COLLINS,J.I.
KEYWORDS→ LONGSHORE BARS;MOVABLE-BED MODELING;
PROFILES;SEDIMENT CHARACTERISTICS;SEDIMENT
TRANSPORT

TP 76-20 <LETHAL EFFECTS OF SUSPENDED SEDIMENTS ON ESTUARINE FISH (DEC 1976)
AUTHOR(S)→ NEUMANN,D.A.; OCONNOR,J.M.;
SHERK,J.A.,JR.
KEYWORDS→ FAUNA;FISH;MINERAL SOLIDS;PATUXENT
RIVER,MD;SEDIMENT TRANSPORT

TP 77-4 <SEDIMENT SUSPENSION AND TURBULENCE IN AN OSCILLATING FLUME (APR 1977)
AUTHOR(S)→ MACDONALD,T.C.
KEYWORDS→ FALL VELOCITY;SEDIMENT TRANSPORT

TP 77-5 <SUSPENDED SEDIMENT IN THE LITTORAL ZONE AT VENTNOR, NEW JERSEY, AND NAGS HEAD, NORTH CAROLINA (MAY 1977)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ NAGS HEAD,NC;SEDIMENT TRANSPORT;
VENTNOR,NJ

TP 77-9 <CALCULATING A YEARLY LIMIT DEPTH TO THE ACTIVE BEACH PROFILE (SEP 1977)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ PROFILES;SEDIMENT TRANSPORT;WAVE
CLIMATOLOGY

TP 78-5 <SAND RIPPLE GROWTH IN AN OSCILLATORY-FLOW WATER TUNNEL (AUG 1978)
AUTHOR(S)→ LOFQUIST,K.E.B.
KEYWORDS→ BED FORMS;PROFILES;QUARTZ SAND;
RIPPLES;SAND RIPPLES;SEDIMENT TRANSPORT

TP 79-1 <RELATION BETWEEN IMMERSED WEIGHT AND VOLUME

RATES OF LONGSHORE TRANSPORT (MAY 1979)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ LONGSHORE ENERGY FLUX;SEDIMENT TRANSPORT

TP 80-1 <TRANSPORT OF DREDGED SEDIMENT PLACED IN THE NEARSHORE ZONE - CURRITUCK SAND-BYPASS STUDY (PHASE I) (FEB 1980)
AUTHOR(S)→ MUSIALOWSKI,F.R.; SCHWARTZ,R.K.
KEYWORDS→ BEACH NOURISHMENT;NEW RIVER INLET,NC; SAND BYPASSING;SEDIMENT TRANSPORT

TP 80-4 <THE SPM ENERGY FLUX METHOD FOR PREDICTING LONGSHORE TRANSPORT RATE (JUN 1980)
AUTHOR(S)→ GALVIN,C.J.,JR.; SCHWEPPE,C.R.
KEYWORDS→ LONGSHORE ENERGY FLUX;SEDIMENT TRANSPORT;WAVE CLIMATOLOGY

TP 80-6 <A METHOD TO PREDICT THE STABLE GEOMETRY OF A CHANNEL CONNECTING AN ENCLOSED HARBOR AND NAVIGABLE WATERS (AUG 1980)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ HARBORS;SEDIMENT TRANSPORT;TIDAL INLETS

TP 81-2 <LONGSHORE SAND TRANSPORT STUDY AT CHANNEL ISLANDS HARBOR, CALIFORNIA (APR 1981)
AUTHOR(S)→ BRUNO,R.O.; DEAN,R.G.; GABLE,C.G.; WALTON,T.L.,JR.
KEYWORDS→ BREAKWATERS;CHANNEL ISLANDS HARBOR,CA; LONGSHORE ENERGY FLUX;SEDIMENT TRANSPORT

SEDIMENTATION TANK

R 76-1 <SHOALING RATE PREDICTION USING A SEDIMENTATION TANK (JUN 1976)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ SEDIMENTATION TANK;SHOALING

SEICHING

R 80-2 <SURGING IN THE SHARK RIVER BOAT BASIN (OCT 1980)
AUTHOR(S)→ SORENSEN,R.M.; WEGGEL,J.R.
KEYWORDS→ SEICHING;SHARK RIVER,NJ

TP 77-8 <HYDRAULICS OF GREAT LAKES INLETS (JUL 1977)
AUTHOR(S)→ SEELIG,W.N.; SORENSEN,R.M.
KEYWORDS→ GREAT LAKES;INLETS;PENTWATER HARBOR,MI;SEICHING

SEISMIC REFLECTION

CETA 82-5 <USE OF HIGH RESOLUTION SEISMIC REFLECTION AND SIDE-SCAN SONAR EQUIPMENT FOR OFFSHORE SURVEYS (NOV 1982)
AUTHOR(S)→ WILLIAMS,S.J.

KEYWORDS→ SEISMIC REFLECTION

MR 77-11 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OF THE CAPE FEAR REGION, NORTH CAROLINA (DEC 1977)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ ICONS;SEISMIC REFLECTION

MR 79-3 <SAND RESOURCES OF SOUTHEASTERN LAKE MICHIGAN (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;LAKE MICHIGAN; SEISMIC REFLECTION

MR 79-4 <SEDIMENT DISTRIBUTION, SAND RESOURCES, AND GEOLOGIC CHARACTER OF THE INNER CONTINENTAL SHELF OFF GALVESTON COUNTY, TEXAS (JUL 1979)
AUTHOR(S)→ MEISBURGER,E.P.; PRINS,D.A.; WILLIAMS,S.J.
KEYWORDS→ GALVESTON COUNTY,TX;GEOMORPHOLOGY; ICONS;SEISMIC REFLECTION

MR 80-4 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OF THE CAPE MAY REGION, NEW JERSEY(JUL 1 980)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CAPE MAY,NJ;GEOMORPHOLOGY;ICONS;INNER CONTINENTAL SHELF;SEISMIC REFLECTION

MR 80-10 <SAND RESOURCES OF SOUTHERN LAKE ERIE, CONNEAUT TO TOLEDO, OHIO - A SEISMIC REFLECTION AND VIBRACORE STUDY (NOV 1980)
AUTHOR(S)→ CARTER,C.H.; FULLER,J.A.; MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ CORING DEVICES;GEOMORPHOLOGY;ICONS; LAKE ERIE;SEISMIC REFLECTION

MR 82-10 <SAND RESOURCES ON THE INNER CONTINENTAL SHELF OFF THE CENTRAL NEW JERSEY COAST (OCT 1982)
AUTHOR(S)→ MEISBURGER,E.P.; WILLIAMS,S.J.
KEYWORDS→ GEOMORPHOLOGY;ICONS;NEW JERSEY; SEISMIC REFLECTION

R 1-70 <SHALLOW STRUCTURAL CHARACTERISTICS OF FLORIDA ATLANTIC SHELF AS REVEALED BY SEISMIC REFLECTION PROFILES (OCT 1970)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CONTINENTAL SHELF;ICONS;SEISMIC REFLECTION

R 79-1 <GEOLOGIC EFFECTS OF OCEAN DUMPING ON THE NEW YORK BIGHT INNER SHELF (MAR 1979)
AUTHOR(S)→ WILLIAMS,S.J.
KEYWORDS→ DREDGING;GEOMORPHOLOGY;NEW YORK BIGHT; SEISMIC REFLECTION

TM 29 <GEOMORPHOLOGY AND SEDIMENTS OF THE NEARSHORE CONTINENTAL SHELF, MIAMI TO PALM BEACH, FLORIDA (NOV 1969)

AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CONTINENTAL SHELF;
GEOMORPHOLOGY;ICONS;MIAMI,FL;PALM BEACH,FL;
SEISMIC REFLECTION

TM 34 <GEOMORPHOLOGY AND SEDIMENTS OF THE INNER
CONTINENTAL SHELF, PALM BEACH TO CAPE KENNEDY,
FLORIDA (FEB 1971)
AUTHOR(S)→ DUANE,D.B.; MEISBURGER,E.P.
KEYWORDS→ CAPE KENNEDY,FL;GEOMORPHOLOGY;ICONS;
PALM BEACH,FL;SEISMIC REFLECTION

TM 38 <GEOMORPHOLOGY AND SEDIMENTS OF THE CHESAPEAKE
BAY ENTRANCE (JUN 1972)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;CHESAPEAKE BAY;
GEOMORPHOLOGY;ICONS;SEISMIC REFLECTION

TM 40 <PLEISTOCENE-HOLOCENE SEDIMENTS INTERPRETED BY
SEISMIC REFRACTION AND WASH-BORE SAMPLING,
PLUM ISLAND-CASTLE NECK, MASSACHUSETTS (JUL
1973)
AUTHOR(S)→ RHODES,E.G.
KEYWORDS→ GEOMORPHOLOGY;PLUM ISLAND,MA;SEISMIC
REFLECTION

TM 54 <GEOMORPHOLOGY, SHALLOW STRUCTURE, AND SEDIMENTS
OF THE FLORIDA INNER CONTINENTAL SHELF, CAPE
CANAVERAL TO GEORGIA (JUL 1975)
AUTHOR(S)→ FIELD,M.E.; MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS;
SEISMIC REFLECTION

TP 76-2 <GEOMORPHOLOGY, SHALLOW SUBBOTTOM STRUCTURE, AND
SEDIMENTS OF THE ATLANTIC INNER CONTINENTAL
SHELF OFF LONG ISLAND, NEW YORK (MAR 1976)
AUTHOR(S)→ WILLIAMS,S.J.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS;
LONG ISLAND,NY;SEISMIC REFLECTION

TP 76-3 <GEOMORPHOLOGY AND SEDIMENTS OF WESTERN
MASSACHUSETTS BAY (APR 1976)
AUTHOR(S)→ MEISBURGER,E.P.
KEYWORDS→ BEACH NOURISHMENT;GEOMORPHOLOGY;ICONS;
MASSACHUSETTS BAY;SEISMIC REFLECTION

TP 79-2 <SEDIMENTS, SHALLOW SUBBOTTOM STRUCTURE, AND
SAND RESOURCES OF THE INNER CONTINENTAL SHELF,
CENTRAL DELMARVA PENINSULA (JUN 1979)
AUTHOR(S)→ FIELD,M.E.
KEYWORDS→ DELMARVA PENINSULA;GEOMORPHOLOGY;
ICONS;INNER CONTINENTAL SHELF;SEISMIC
REFLECTION

SEISMIC SEA WAVES

TM 25 <THE TSUNAMI OF THE ALASKAN EARTHQUAKE, 1964;
ENGINEERING EVALUATION (MAY 1968)

AUTHOR(S)→ TORUM,A.; WILSON,B.W.
KEYWORDS→ ALASKA;EARTHQUAKES;SEISMIC SEA WAVES;
TSUNAMIS

SETTLING VELOCITIES

TM 9 <DYNAMIC PROPERTIES OF IMMERSED SAND AT VIRGINIA BEACH, VIRGINIA (DEC 1964)
AUTHOR(S)→ ALAMO,R.M.; HARRISON,W.
KEYWORDS→ SETTLING VELOCITIES;VIRGINIA BEACH,VA

SHARK RIVER,NJ

R 80-2 <SURGING IN THE SHARK RIVER BOAT BASIN (OCT 1980)
AUTHOR(S)→ SORENSEN,R.M.; WEGGEL,J.R.
KEYWORDS→ SEICHING;SHARK RIVER,NJ

SHEAR STRESSES

R 3-71 <BOTTOM BOUNDARY SHEAR STRESSES ON A MODEL BEACH (SEP 1971)
AUTHOR(S)→ ANDERSON,M.W.; TELEKI,P.G.
KEYWORDS→ PRESTON PROBE;SHEAR STRESSES

R 79-13 <SAND BED FRICTION FACTORS FOR OSCILLATORY FLOWS (NOV 1979)
AUTHOR(S)→ VITALE,P.
KEYWORDS→ BED FORMS;FRICTION FACTOR;SEDIMENT TRANSPORT;SHEAR STRESSES

SHERWOOD ISLAND STATE PARK,CT

TM 20 <BEHAVIOR OF BEACH FILL AND BORROW AREA AT SHERWOOD ISLAND STATE PARK, WESTPORT, CONNECTICUT (MAY 1967)
AUTHOR(S)→ VESPER,W.H.
KEYWORDS→ BEACH NOURISHMENT;SHERWOOD ISLAND STATE PARK,CT

SHOALING

CETA 81-12 <PREDICTION OF WAVE REFRACTION AND SHOALING USING TWO NUMERICAL MODELS (AUG 1981)
AUTHOR(S)→ HUBERTZ,J.M.
KEYWORDS→ MATHEMATICAL MODELS;REFRACTION,WAVE; SHOALING

CETA 82-7 <PREDICTION OF NEARSHORE WAVE TRANSFORMATION (DEC 1982)
AUTHOR(S)→ HUBERTZ,J.M.
KEYWORDS→ MATHEMATICAL MODELS;SHOALING;WAVE TRANSFORMATION

CETA 83-1 <CALCULATION OF WAVE SHOALING WITH DISSIPATION OVER NEARSHORE SANDS (MAR 1983)

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AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ SHOALING;WAVE CLIMATOLOGY

R 22-73 <LINEAR SHOALS ON THE ATLANTIC INNER CONTINENTAL SHELF, FLORIDA TO LONG ISLAND (1973)
AUTHOR(S)→ DUANE,D.B.
KEYWORDS→ ATLANTIC COAST;CONTINENTAL SHELF; SHOALING

R 76-1 <SHOALING RATE PREDICTION USING A SEDIMENTATION TANK (JUN 1976)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ SEDIMENTATION TANK;SHOALING

R 77-1 <SEDIMENTATION IN A HALF-TIDE HARBOR (FEB 1977)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ DILLINGHAM HARBOR,AK;HARBORS;SEDIMENT TRANSPORT;SHOALING

R 79-11 <USES FOR A CALCULATED LIMIT DEPTH TO BEACH EROSION (NOV 1979)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ EROSION;SEDIMENT TRANSPORT:SHOALING

R 81-3 <A PROFILE ZONATION FOR SEASONAL SAND BEACHES FROM WAVE CLIMATE (APR 1981)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ PROFILES;SHOALING;WAVE CLIMATOLOGY

R 83-5 <ANALYSIS METHOD FOR STUDYING SEDIMENTATION PATTERNS (MAY 1983)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ MILL COVE,FL;SEDIMENT TRANSPORT; SHOALING

TM 59 <SIMPLIFIED METHOD FOR ESTIMATING REFRACTION AND SHOALING EFFECTS ON OCEAN WAVES (NOV 1975)
AUTHOR(S)→ MCCLENAN,C.M.
KEYWORDS→ REFRACTION,WAVE;SHOALING

TP 76-1 <SHOALING RATES AND RELATED DATA FROM KNIK ARM NEAR ANCHORAGE, ALASKA (MAR 1976)
AUTHOR(S)→ EVERTS,C.H.; MOORE,H.E.
KEYWORDS→ BULK DENSITY;CURRENTS;HARBORS;KNIK ARM,AK;SHOALING;TIDES

TP 80-8 <CALCULATION OF WAVE ATTENUATION DUE TO FRICTION AND SHOALING: AN EVALUATION (OCT 1980)
AUTHOR(S)→ GROSSKOPF,W.G.
KEYWORDS→ ATTENUATION,WAVE;SHOALING;WAVE CLIMATOLOGY

SHORE PROCESSES

CETA 81-13 <PRODUCTS FROM TWO COMPUTER PROGRAMS WHICH PROCESS DIGITAL BATHYMETRIC DATA (OCT 1981)
AUTHOR(S)→ HERCHENRODER,B.E.
KEYWORDS→ MATHEMATICAL MODELS;SHORE PROCESSES

MP 4-64 <LAND AGAINST THE SEA (MAY 1964)
AUTHOR(S)→ CERC STAFF; RAYNOR,A.C.

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KEYWORDS→ SHORE PROCESSES

MP 6-64 <BEACH CHANGES AT VIRGINIA BEACH, VIRGINIA (NOV 1964)
AUTHOR(S)→ HARRISON,W.; WAGNER,K.A.
KEYWORDS→ PROFILES;SHORE PROCESSES;VIRGINIA BEACH,VA

MP 3-69 <PIPE PROFILE DATA AND WAVE OBSERVATIONS FROM THE CERC BEACH EVALUATION PROGRAM, JANUARY-MARCH 1968 (SEP 1969)
AUTHOR(S)→ GALVIN,C.J.,JR.; URBAN,H.D.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LONG ISLAND,NY;LUDLAM ISLAND,NJ; PROFILES;SHORE PROCESSES;WESTHAMPTON BEACH,NY

MR 77-10 <MATHEMATICAL MODELING OF SHORELINE EVOLUTION (OCT 1977)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;SHORE PROCESSES

MR 80-6 <A NUMERICAL MODEL FOR PREDICTING SHORELINE CHANGES (JUL 1980)
AUTHOR(S)→ LE MEHAUTE,B.; SOLDATE,M.
KEYWORDS→ CURRENTS;DIFFRACTION,WAVE;GREAT LAKES; HOLLAND HARBOR,MI;MATHEMATICAL MODELS; REFRACTION,WAVE;SHORE PROCESSES

R 1-67 <COASTAL PROCESSES AND BEACH EROSION (JAN 1967)
AUTHOR(S)→ CALDWELL,J.M.
KEYWORDS→ EROSION;SHORE PROCESSES

R 83-10 <SHORELINE CHANGES DOWNDRIFT OF A LITTORAL BARRIER (MAY 1983)
AUTHOR(S)→ EVERTS,C.H.
KEYWORDS→ CRENULATE-SHAPED BAYS;LITTORAL BARRIERS;SHORE PROCESSES

R 83-11 <LOW-COST MEASUREMENTS OF SHORLINE CHANGES (MAY 1983)
AUTHOR(S)→ CAMFIELD,F.E.; CLANCY,R.M.; SCHEIDER,C.
KEYWORDS→ SEDIMENT TRANSPORT;SHORE PROCESSES

R 83-13 <EFFECTS OF CERC RESEARCH PIER ON NEARSHORE PROCESSES (MAY 1983)
AUTHOR(S)→ BIRKEMEIER,W.A.; DEWALL,A.E.; MILLER,H.C.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; SHORE PROCESSES

TM 7 <INTERACTIONS OF THE BEACH-OCEAN-ATMOSPHERE SYSTEM AT VIRGINIA BEACH, VA. (DEC 1964)
AUTHOR(S)→ HARRISON,W.; KRUMBEIN,W.C.
KEYWORDS→ CURRENTS;SHORE PROCESSES;VIRGINIA BEACH,VA;WIND

TM 44 <SPATIAL AND TEMPORAL VARIATIONS IN GEOMETRIC AND MATERIAL PROPERTIES OF A NATURAL BEACH

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TP 77-2 <STILLING WELL DESIGN FOR ACCURATE WATER LEVEL MEASUREMENT (JAN 1977)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ DAMPING;INSTRUMENTATION;STILLING WELL

STORM SURGE

GITI 14 <A SPATIALLY INTEGRATED NUMERICAL MODEL OF INLET HYDRAULICS (NOV 1977)
AUTHOR(S)→ HARRIS,D.L.; HERCHENRODER,B.E.; SEELIG,W.N.
KEYWORDS→ CURRENTS;MATHEMATICAL MODELS;STORM SURGE;TIDAL INLETS;TIDES;TSUNAMIS

TM 26 <HURRICANE SURGE FREQUENCY: ESTIMATED FOR THE GULF COAST OF TEXAS (FEB 1969)
AUTHOR(S)→ BODINE,B.R.
KEYWORDS→ HURRICANES;STORM SURGE

TM 32 <FINITE-DIFFERENCE SCHEMES COMPARED FOR WAVE-DEFORMATION CHARACTERISTICS IN MATHEMATICAL MODELING OF TWO-DIMENSIONAL LONG WAVE PROPAGATION (OCT 1970)
AUTHOR(S)→ SOBEY,R.J.
KEYWORDS→ MATHEMATICAL MODELS;STORM SURGE;TIDES

TM 35 <STORM SURGE ON THE OPEN COAST: FUNDAMENTALS AND SIMPLIFIED PREDICTION (MAY 1971)
AUTHOR(S)→ BODINE,B.R.
KEYWORDS→ CHESAPEAKE BAY;HURRICANES; MATHEMATICAL MODELS;STORM SURGE

TM 50 <VERIFICATION STUDY OF A BATHYSTROPHIC STORM SURGE MODEL (MAY 1975)
AUTHOR(S)→ PARARAS-CARAYANNIS,G
KEYWORDS→ HURRICANES;MATHEMATICAL MODELS;STORM SURGE

TM 56 <AN ANALYSIS OF DRAG COEFFICIENT AT HURRICANE WINDSPEEDS FROM A NUMERICAL SIMULATION OF DYNAMICAL WATER LEVEL CHANGES IN LAKE OKEECHOBEE, FLORIDA (OCT 1975)
AUTHOR(S)→ REID,R.O.; VASTANO,A.C.; WHITAKER,R.E.
KEYWORDS→ DRAG COEFFICIENTS;HURRICANES;LAKE OKEECHOBEE,FL;STORM SURGE

TP 77-13 <DEVELOPMENT OF SURGE II PROGRAM WITH APPLICATION TO THE SABINE-CALCASIEU AREA FOR HURRICANE CARLA AND DESIGN HURRICANES (NOV 1977)
AUTHOR(S)→ REID,R.O.; REID,T.J.; VASTANO,A.C.
KEYWORDS→ HURRICANES;MATHEMATICAL MODELS;STORM SURGE;SURGE II COMPUTER PROGRAM

TR 76-3 <STORM SURGE SIMULATION IN TRANSFORMED COORDINATES (NOV 1976)
AUTHOR(S)→ REID,R.O.; VASTANO,A.C.;

WANSTRATH,J.J.; WHITAKER,R.E.
KEYWORDS→ HURRICANES;MATHEMATICAL MODELS;STORM SURGE

STORMS

*SEE ALSO HURRICANES

R 78-9 <SPATIAL AND TEMPORAL CHANGES IN NEW JERSEY BEACHES (FEB 1978)
AUTHOR(S)→ CZERNIAK,M.T.; EVERTS,C.H.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES; STORMS

R 79-2 <THE EFFECTS OF THE 19 DECEMBER 1977 COASTAL STORM ON BEACHES IN NORTH CAROLINA AND NEW JERSEY (JAN 1979)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ CURRENTS;DARE COUNTY,NC;DATA COLLECTION;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;PROFILES;STORMS

TM 49 <ANALYSIS AND INTERPRETATION OF LITTORAL ENVIRONMENT OBSERVATION (LEO) AND PROFILE DATA ALONG THE WESTERN PANHANDLE COAST OF FLORIDA (MAR 1975)
AUTHOR(S)→ BALSILLIE,J.H.
KEYWORDS→ AERIAL PHOTOGRAPHY;CURRENTS; GEOMORPHOLOGY;LEO;PROFILES;STORMS

STREAM FUNCTION WAVE THEORY

SR 1 <EVALUATION AND DEVELOPMENT OF WATER WAVE THEORIES FOR ENGINEERING APPLICATION (NOV 1974)
AUTHOR(S)→ DEAN,R.G.
KEYWORDS→ STREAM FUNCTION WAVE THEORY;WAVE CHARACTERISTICS

SUBMERGENCE

R 78-7 <IMPLICATIONS OF SUBMERGENCE FOR COASTAL ENGINEERS (FEB 1978)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;SUBMERGENCE

R 78-11 <SOME DATA POINTS ON SHORELINE RETREAT ATTRIBUTABLE TO COASTAL SUBSIDENCE (MAR 1978)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ LAKE LEVELS;LAKE MICHIGAN;PROFILES; SUBMERGENCE

TP 79-4 <CHANGES IN RATES OF SHORE RETREAT, LAKE MICHIGAN, 1967-76 (DEC 1979)
AUTHOR(S)→ HANDS,E.B.
KEYWORDS→ GREAT LAKES;LAKE LEVELS;LAKE MICHIGAN; PROFILES;SUBMERGENCE

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SURGE II COMPUTER PROGRAM

TP 77-13 <DEVELOPMENT OF SURGE II PROGRAM WITH APPLICATION TO THE SABINE-CALCASIEU AREA FOR HURRICANE CARLA AND DESIGN HURRICANES (NOV 1977)
AUTHOR(S)→ REID,R.O.; REID,T.J.; VASTANO,A.C.
KEYWORDS→ HURRICANES;MATHEMATICAL MODELS;STORM SURGE;SURGE II COMPUTER PROGRAM

SURVEYING

CETA 81-11 <FAST, ACCURATE TWO-PERSON BEACH SURVEYS (AUG 1981)
AUTHOR(S)→ BIRKEMEIER,W.A.
KEYWORDS→ PROFILES;SURVEYING

CETA 81-15 <GUIDELINES FOR ESTABLISHING COASTAL SURVEY BASE LINES (NOV 1981)
AUTHOR(S)→ HEMSLEY,J.M
KEYWORDS→ SURVEYING

R 3-71 EFFECT OF LONG PERIOD WAVES ON HYDROGRAPHIC SURVEYS (SEP 1971)
AUTHOR(S)→ MAGOON,O.T.; SARLIN,W.O.
KEYWORDS→ SANTA CRUZ HARBOR,CA;SURVEYING

SYNTHETIC APERTURE RADAR(SAR)

R 81-1 <SEASAT DETECTION OF WAVES, CURRENTS AND INLET DISCHARGE (MAR 1981)
AUTHOR(S)→ LICHY,D.E.; MATTIE,M.G.
KEYWORDS→ CURRENTS;DUCK,NC;FIELD RESEARCH FACILITY-CERC;RADAR;SEASAT;SYNTHETIC APERTURE RADAR(SAR);TIDAL INLETS

R 81-4 <TRACKING OF A WARM WATER RING (JUL 1981)
AUTHOR(S)→ LICHY,D.E.; MANCINI,L.J.; MATTIE,M.G.
KEYWORDS→ REMOTE SENSING;SYNTHETIC APERTURE RADAR(SAR)

R 81-5 <WAVE DIRECTION MEASURED BY FOUR DIFFERENT SYSTEMS (SEP 1981)
AUTHOR(S)→ EVANS,D.D.; HSIAO,S.V.; MATTIE,M.G.
KEYWORDS→ AERIAL PHOTOGRAPHY;GAGES,WAVE;MISSION BEACH,CA;RADAR;SYNTHETIC APERTURE RADAR(SAR)

TETRAPODS

TM 43 <ENGINEERING AND ECOLOGICAL EVALUATION OF ARTIFICIAL-ISLAND DESIGN, RINCON ISLAND, PUNTA GORDA, CALIFORNIA (MAR 1974)
AUTHOR(S)→ KEITH,J.M.; SKJEI,R.E.
KEYWORDS→ ARMOR UNITS;ARTIFICIAL ISLANDS;RINCON ISLAND,CA;TETRAPODS

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THERMISTOR

TM 3 <A THERMISTOR PROBE FOR MEASURING PARTICLE ORBITAL SPEED IN WATER WAVES (MAR 1964)
AUTHOR(S)→ EAGLESON,P.S.; VAN DE WATERING,W.P.
KEYWORDS→ CURRENT METERS;INSTRUMENTATION; THERMISTOR

THRESHOLD VELOCITY

TM 1 <SAND MOVEMENT BY WIND(JAN 1964)
AUTHOR(S)→ BELLY,P.Y.
KEYWORDS→ SEDIMENT TRANSPORT;THRESHOLD VELOCITY; WIND;WIND TUNNEL

TIDAL DATUMS

SR-7 <TIDES AND TIDAL DATUMS IN THE UNITED STATES (FEB 1981)
AUTHOR(S)→ HARRIS,D.L.
KEYWORDS→ TIDAL DATUMS;TIDES

TIDAL INLETS

CETA 77-1 <A SIMPLE COMPUTER MODEL FOR EVALUATING COASTAL INLET HYDRAULICS (JUL 1977)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ MATHEMATICAL MODELS;TIDAL INLETS

CETA 77-8 <PROCEDURES FOR PRELIMINARY ANALYSIS OF TIDAL INLET HYDRAULICS AND STABILITY (DEC 1977)
AUTHOR(S)→ SORENSEN,R.M.
KEYWORDS→ CURRENTS;TIDAL INLETS

GITI 2 <CATALOG OF TIDAL AERIAL PHOTOGRAPHY (JUN 1975)
AUTHOR(S)→ BARWIS,J.H.
KEYWORDS→ AERIAL PHOTOGRAPHY;TIDAL INLETS

GITI 3 <TIDAL PRISM-INLET AREA RELATIONSHIPS (FEB 1976)
AUTHOR(S)→ JARRETT,J.T.
KEYWORDS→ TIDAL INLETS

GITI 4 <ANNOTATED BIBLIOGRAPHY ON THE GEOLOGIC, HYDRAULIC, AND ENGINEERING ASPECTS OF TIDAL INLETS (JAN 1976)
AUTHOR(S)→ BARWIS,J.H.
KEYWORDS→ BIBLIOGRAPHIES;TIDAL INLETS

GITI 5 <NOTES ON TIDAL INLETS ON SANDY SHORES (FEB 1976)
AUTHOR(S)→ OBRIEN,M.P.
KEYWORDS→ TIDAL INLETS

GITI 6 <COMPARISON OF NUMERICAL AND PHYSICAL HYDRAULIC MODELS, MASONBORO INLET, NORTH CAROLINA (JUN 1977)
AUTHOR(S)→ BODINE,B.R.; HARRIS,D.L.

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KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; MATHEMATICAL MODELS;TIDAL INLETS

GITI 7 <MODEL MATERIALS EVALUATION; SAND TESTS; HYDRAULIC LABORATORY INVESTIGATION (JUN 1976)
AUTHOR(S)→ MCNAIR,E.C.
KEYWORDS→ HYDRAULIC MODELS,MOVABLE-BED MODELING; QUARTZ SAND;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 8 <HYDRAULICS AND DYNAMICS OF NEW CORPUS CHRISTI PASS, TEXAS: A CASE HISTORY, 1972-73 (JAN 1977)
AUTHOR(S)→ BEHRENS,E.W.; MASON,C.; WATSON,R.L.
KEYWORDS→ CORPUS CHRISTI PASS,TX;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 9 <HYDRAULICS AND DYNAMICS OF NEW CORPUS CHRISTI PASS, TEXAS: A CASE HISTORY, 1973-1975 (SEP 1976)
AUTHOR(S)→ BEHRENS,E.W.; WATSON,R.L.
KEYWORDS→ CORPUS CHRISTI PASS,TX;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 10 <HYDRAULICS AND DYNAMICS OF NORTH INLET, SOUTH CAROLINA, 1974-75 (SEP 1976)
AUTHOR(S)→ FINLEY,R.J.
KEYWORDS→ NORTH INLET,SC;SEDIMENT TRANSPORT; TIDAL INLETS

GITI 11 <*LABORATORY INVESTIGATION* OF TIDAL INLETS ON SANDY COASTS (APR 1977)
AUTHOR(S)→ MAYOR-MORA,R.E.
KEYWORDS→ HYDRAULIC MODELS;TIDAL INLETS

GITI 12 <A CASE HISTORY OF PORT MANSFIELD CHANNEL, TEXAS (MAY 1977)
AUTHOR(S)→ KIESLICH,J.M.
KEYWORDS→ PORT MANSFIELD,TX;SEDIMENT TRANSPORT; TIDAL INLETS

GITI 13 <HYDRAULICS AND STABILITY OF TIDAL INLETS (AUG 1977)
AUTHOR(S)→ ESCOFFIER,F.F.
KEYWORDS→ MASONBORO INLET,NC;MISSION BAY,CA; ROLLOVER PASS,TX;TIDAL INLETS

GITI 14 <A SPATIALLY INTEGRATED NUMERICAL MODEL OF INLET HYDRAULICS (NOV 1977)
AUTHOR(S)→ HARRIS,D.L.; HERCHENRODER,B.E.; SEELIG,W.N.
KEYWORDS→ CURRENTS;MATHEMATICAL MODELS;STORM SURGE;TIDAL INLETS;TIDES;TSUNAMIS

GITI 15 <PHYSICAL MODEL SIMULATION OF THE HYDRAULICS OF MASONBORO INLET,NORTH CAROLINA (NOV 1977)
AUTHOR(S)→ SAGER,R.A.; SEABERGH,W.C.
KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; TIDAL INLETS

GITI 16 <HYDRAULICS AND DYNAMICS OF NORTH INLET, SOUTH CAROLINA, 1975-76 (SEP 1978)
AUTHOR(S)→ HUMPHRIES,S.M.; NUMMEDAL,D.

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KEYWORDS→ NORTH INLET,SC;TIDAL INLETS

GITI 17 <AN EVALUATION OF MOVABLE-BED TIDAL INLET MODELS (FEB 1979)
AUTHOR(S)→ JAIN,S.C.; KENNEDY,J.F.
KEYWORDS→ MOVABLE-BED MODELING;SEDIMENT TRANSPORT;TIDAL INLETS

GITI 18 <SUPPLEMENTARY TESTS OF MASONBORO INLET FIXED-BED MODEL: HYDRAULIC MODEL INVESTIGATION (MAY 1980)
AUTHOR(S)→ SAGER,R.A.; SEABERGH,W.C.
KEYWORDS→ HYDRAULIC MODELS;MASONBORO INLET,NC; TIDAL INLETS

GITI 19 <TIDAL INLET RESPONSE TO JETTY CONSTRUCTION (OCT 1981)
AUTHOR(S)→ KIESLICH,J.M.
KEYWORDS→ JETTIES;NAVIGATION CHANNELS;TIDAL INLETS

GITI 20 <THE GEOMETRY OF SELECTED U.S. TIDAL INLETS (MAY 1980)
AUTHOR(S)→ CORSON,W.D.; VINCENT,C.L.
KEYWORDS→ TIDAL INLETS

MP 3-74 <BOLINAS LAGOON INLET, CALIFORINA (MAY 1974)
AUTHOR(S)→ JOHNSON,J.W.
KEYWORDS→ BOLINAS LAGOON,CA;TIDAL INLETS

MR 80-3 <BEACH AND INLET CHANGES AT LUDLAM BEACH, NEW JERSEY (MAY 1980)
AUTHOR(S)→ CZERNIAK,M.T.; DEWALL,A.E.; EVERTS,C.H.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC;GROINS; LUDLAM BEACH,NJ;PROFILES;TIDAL INLETS

MR 81-1 <HYDRAULICS AND STABILITY OF FIVE TEXAS INLETS (JAN 1981)
AUTHOR(S)→ MASON,C.
KEYWORDS→ FREEPORT HARBOR,TX;GALVESTON BAY,TX; ROLLOVER PASS,TX;SABINE PASS,TX;SAN LUIS PASS,TX;TIDAL INLETS

R 10-73 <CHARACTER AND STABILITY OF A NATURAL TIDAL INLET (JUL 1973)
AUTHOR(S)→ MASON,C.; SORENSEN,R.M.
KEYWORDS→ BROWN CEDAR CUT,TX;TIDAL INLETS

R 11-73 <CASE HISTORY OF MISSION BAY INLET, SAN DIEGO, CALIFORNIA (JUL 1973)
AUTHOR(S)→ HERRON,W.J.,JR.
KEYWORDS→ MISSION BAY,CA;TIDAL INLETS

R 10-74 <REGIME EQUATIONS AND TIDAL INLETS (AUG 1974)
AUTHOR(S)→ MASON,C.
KEYWORDS→ TIDAL INLETS

R 76-4 <CHANNEL ENTRANCE RESPONSE TO JETTY CONSTRUCTION (JUN 1976)
AUTHOR(S)→ KIESLICH,J.M.; MASON,C.
KEYWORDS→ JETTIES;TIDAL INLETS

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TORREY PINES BEACH,CA

MP 11-75 <SAND LEVEL CHANGES ON TORREY PINES BEACH, CALIFORNIA (DEC 1975)
AUTHOR(S)→ INMAN,D.L.; NORDSTROM,C.E.
KEYWORDS→ PROFILES;TORREY PINES BEACH,CA

TP 76-5 <WAVE CLIMATE AT TORREY PINES BEACH, CALIFORNIA (MAY 1976)
AUTHOR(S)→ HOLMES,L.; INMAN,D.L.; LOWE,R.L.; PAWKA,S.S.
KEYWORDS→ GAGES,WAVE;TORREY PINES BEACH,CA;WAVE CLIMATOLOGY

TRANSMISSION,WAVE

CDM 76-1 <A SIMPLIFIED METHOD FOR DETERMINING VERTICAL BREAKWATER CREST ELEVATION CONSIDERING WAVE HEIGHT TRANSMITTED BY OVERTOPPING (MAY 1976)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;OVERTOPPING,WAVE; TRANSMISSION,WAVE

CETA 79-4 <DETERMINATION OF MOORING LOAD AND TRANSMITTED WAVE HEIGHT FOR A FLOATING TIRE BREAKWATER (SEP 1979)
AUTHOR(S)→ ECKERT,J.W.; GILES,M.L.
KEYWORDS→ BREAKWATERS;FLOATING BREAKWATERS; MOORING FORCES;TRANSMISSION,WAVE;WAVE CLIMATOLOGY

CETA 79-6 <ESTIMATION OF WAVE TRANSMISSION COEFFICIENTS FOR PERMEABLE BREAKWATERS (OCT 1979)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;TRANSMISSION,WAVE

CETA 80-7 <ESTIMATION OF WAVE TRANSMISSION COEFFICIENTS FOR OVERTOPPING OF IMPERMEABLE BREAKWATERS (DEC 1980)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;OVERTOPPING,WAVE; RUNUP,WAVE;TRANSMISSION,WAVE

MR 76-5 <REFLECTION AND TRANSMISSION CHARACTERISTICS OF POROUS RUBBLE-MOUND BREAKWATERS (MAR 1976)
AUTHOR(S)→ MADSEN,O.S.; WHITE,S.M.
KEYWORDS→ BREAKWATERS;FRICTION FACTOR; REFLECTION,WAVE;TRANSMISSION,WAVE

R 2-66 <BREAKWATERS WITH VERTICAL AND SLOPING FACES (FEB 1966)
AUTHOR(S)→ GARCIA,W.J.; LEO,C.E.; SAVILLE,T.,JR.
KEYWORDS→ BREAKWATERS;TRANSMISSION,WAVE;WAVE FORCES

TP 76-8 <WAVE REFLECTION AND TRANSMISSION AT PERMEABLE BREAKWATERS (JUL 1976)
AUTHOR(S)→ CROSS,R.H.,III; SOLLITT,C.K.

KEYWORDS→ BREAKWATERS;REFLECTION,WAVE;
TRANSMISSION,WAVE

TP 76-17 <FLOATING BREAKWATER FIELD ASSESSMENT PROGRAM,
FRIDAY HARBOR, WASHINGTON (OCT 1976)
AUTHOR(S)→ ADEE,B.H.; CHRISTENSEN,D.R.;
RICHEY,E.P.
KEYWORDS→ ATTENUATION,WAVE;BREAKWATERS;FLOATING
BREAKWATERS;FRIDAY HARBOR,WA;REFLECTION,WAVE;
TRANSMISSION,WAVE

TP 78-3 <PROTOTYPE SCALE MOORING LOAD AND TRANSMISSION
TESTS FOR A FLOATING BREAKWATER (APR 1978)
AUTHOR(S)→ GILES,M.L.; SORENSEN,R.M.
KEYWORDS→ ATTENUATION,WAVE;BREAKWATERS;FLOATING
BREAKWATERS;MOORING FORCES;TIRES;
TRANSMISSION,WAVE

TP 82-4 <WAVE TRANSMISSION AND MOORING-FORCE
CHARACTERISTICS OF PIPE-TIRE FLOATING
BREAKWATERS (OCT 1982)
AUTHOR(S)→ HARMS,V.W.; MCTAMANY,J.E.;
SORENSEN,R.M.; WESTERINK,J.J.
KEYWORDS→ FLOATING BREAKWATERS;MOORING FORCES;
TIRES;TRANSMISSION,WAVE

TR 80-1 <TWO-DIMENSIONAL TESTS OF WAVE TRANSMISSION AND
REFLECTION CHARACTERISTICS OF LABORATORY
BREAKWATERS (JUN 1980)
AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ BREAKWATERS;MATHEMATICAL MODELS;
REFLECTION,WAVE;TRANSMISSION,WAVE

TRANSPLANTING

*SEE ALSO VEGETATION

CETA 82-6 <A LOW-COST PLANTING TECHNIQUE FOR EELGRASS
(ZOSTERA MARINA L.) (DEC 1982)
AUTHOR(S)→ FONSECA,M.S.; KENWORTHY,W.J.;
THAYER,G.W.
KEYWORDS→ TRANSPLANTING;VEGETATION

MR 76-3 <DUNE STABILIZATION WITH PANICUM AMARUM ALONG
THE NORTH CAROLINA COAST (FEB 1976)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.;
WOODHOUSE,W.W.,JR.
KEYWORDS→ DUNES;TRANSPLANTING;VEGETATION

MR 78-1 <SHORELINE PLANT ESTABLISHMENT AND USE OF A
WAVE-STILLING DEVICE (JAN 1978)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ EAST BAY,TX;TIRES;TRANSPLANTING;
VEGETATION

TM 22 <DUNE STABILIZATION WITH VEGETATION ON THE OUTER
BANKS OF NORTH CAROLINA (AUG 1967)
AUTHOR(S)→ HANES,R.E.; WOODHOUSE,W.W.,JR.
KEYWORDS→ CAPE HATTERAS,NC;DUNES;TRANSPLANTING;

VEGETATION

TM 46 <PROPAGATION OF SPARTINA ALTERNIFLORA FOR SUBSTRATA STABILIZATION AND SALT MARSH DEVELOPMENT (AUG 1974)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.; WOODHOUSE,W.W.,JR.
KEYWORDS→ TRANSPLANTING;VEGETATION

TP 76-13 <VEGETATION ESTABLISHMENT AND SHORELINE STABILIZATION: GALVESTON BAY, TEXAS (AUG 1976)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ EAST BAY,TX;TRANSPLANTING;VEGETATION

TR 76-2 <PROPAGATION AND USE OF SPARTINA ALTERNIFLORA FOR SHORELINE EROSION ABATEMENT (AUG 1976)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.; WOODHOUSE,W.W.,JR.
KEYWORDS→ BOGUE SOUND,NC;TRANSPLANTING;VEGETATION

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TM 37 <RIPRAP STABILITY ON EARTH EMBANKMENTS TESTED IN LARGE-AND SMALL-SCALE WAVE TANKS (JUN 1972)
AUTHOR(S)→ HARRISON,A.S.; THOMSEN,A.L.; WOHLT,P.E.
KEYWORDS→ ARMOR UNITS;HYDRAULIC MODELS; QUARRYSTONE;RIPRAP;TRIBARS

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CETA 78-1 <ACCELERATION AND IMPACT OF STRUCTURES MOVED BY TSUNAMIS OR FLASH FLOODS (FEB 1978)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ FLASH FLOODS;IMPACT FORCES;TSUNAMIS

GITI 14 <A SPATIALLY INTEGRATED NUMERICAL MODEL OF INLET HYDRAULICS (NOV 1977)
AUTHOR(S)→ HARRIS,D.L.; HERCHENRODER,B.E.; SEELIG,W.N.
KEYWORDS→ CURRENTS;MATHEMATICAL MODELS;STORM SURGE;TIDAL INLETS;TIDES;TSUNAMIS

SR-6 <TSUNAMI ENGINEERING (FEB 1980)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ MATHEMATICAL MODELS;TSUNAMIS;WAVE FORCES

TM 25 <THE TSUNAMI OF THE ALASKAN EARTHQUAKE, 1964; ENGINEERING EVALUATION (MAY 1968)
AUTHOR(S)→ TORUM,A.; WILSON,B.W.
KEYWORDS→ ALASKA;EARTHQUAKES;SEISMIC SEA WAVES; TSUNAMIS

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CETA 77-3 <PLANTING GUIDELINES FOR MARSH DEVELOPMENT AND

BANK STABILIZATION (AUG 1977)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ VEGETATION

CETA 77-4 <PLANTING GUIDELINES FOR DUNE CREATION AND STABILIZATION (SEP 1977)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ VEGETATION

CETA 77-6 <A METHOD FOR ESTIMATING WIND-WAVE GROWTH AND DECAY IN SHALLOW WATER WITH HIGH VALUES OF BOTTOM FRICTION (OCT 1977)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ ATTENUATION,WAVE;VEGETATION;WAVE CHARACTERISTICS;WIND

CETA 80-2 <PLANTING GUIDELINES FOR SEAGRASSES (FEB 1980)
AUTHOR(S)→ PHILLIPS,R.C.
KEYWORDS→ EROSION;VEGETATION

CETA 82-3 <SHORE EROSION CONTROL WITH SALT MARSH VEGETATION (FEB 1982)
AUTHOR(S)→ INSKEEP,M.R.; KNUTSON,P.L.
KEYWORDS→ VEGETATION

CETA 82-6 <A LOW-COST PLANTING TECHNIQUE FOR EELGRASS (ZOSTERA MARINA L.) (DEC 1982)
AUTHOR(S)→ FONSECA,M.S.; KENWORTHY,W.J.; THAYER,G.W.
KEYWORDS→ TRANSPLANTING;VEGETATION

MP 1-70 <EXPERIMENTAL DUNES OF THE TEXAS COAST (JAN 1970)
AUTHOR(S)→ GAGE,B.O.
KEYWORDS→ BARRIER ISLANDS;CORPUS CHRISTI PASS,TX;DUNES;FENCES,SAND;GALVESTON ISLAND,TX;NORTH PADRE ISLAND,TX;PACKERY CHANNEL,TX;VEGETATION

MP 6-75 <ESTABLISHMENT OF VEGETATION FOR SHORELINE STABILIZATION IN GALVESTON BAY (APR 1975)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ GALVESTON BAY,TX;VEGETATION

MP 7-75 <EVALUATION OF POTENTIAL USE OF VEGETATION FOR EROSION ABATEMENT ALONG THE GREAT LAKES SHORELINE (JUN 1975)
AUTHOR(S)→ HALL,V.L.; LUDWIG,J.D.
KEYWORDS→ GREAT LAKES;VEGETATION

MP 9-75 <CONSTRUCTION AND STABILIZATION OF COASTAL FOREDUNES WITH VEGETATION: PADRE ISLAND, TEXAS (SEP 1975)
AUTHOR(S)→ APPAN,S.G.; DAHL,B.E.; FALL,B.A.; LOHSE,A.
KEYWORDS→ FENCES,SAND;PADRE ISLAND,TX;VEGETATION

MR 76-3 <DUNE STABILIZATION WITH PANICUM AMARUM ALONG THE NORTH CAROLINA COAST (FEB 1976)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.; WOODHOUSE,W.W.,JR.
KEYWORDS→ DUNES;TRANSPLANTING;VEGETATION

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MR 76-6 <VEGETATIVE STUDY AT THE DUCK FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (APR 1976)
AUTHOR(S)→ LEVY,G.F.
KEYWORDS→ DUCK,NC;DUNES;FIELD RESEARCH FACILITY-CERC;VEGETATION

MR 77-8 <MONITORING OF FOREDUNES ON PADRE ISLAND, TEXAS (JUL 1977)
AUTHOR(S)→ DAHL,B.E.; GOEN,J.P.
KEYWORDS→ DUNES;PADRE ISLAND,TX;VEGETATION

MR 78-1 <SHORELINE PLANT ESTABLISHMENT AND USE OF A WAVE-STILLING DEVICE (JAN 1978)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ EAST BAY,TX;TIRES;TRANSPLANTING; VEGETATION

MR 79-2 <BANK EROSION CONTROL WITH VEGETATION, SAN FRANCISCO BAY, CALIFORNIA (MAY 1979)
AUTHOR(S)→ GORBICS,C.S.; KNUTSON,P.L.; MORRIS,J.H.; NEWCOMBE,C.L.
KEYWORDS→ EROSION;MARSHES;SAN FRANCISCO BAY,CA; SAN PABLO BAY,CA;VEGETATION

MR 80-7 <AN ANNOTATED BIBLIOGRAPHY OF SEAGRASSES WITH EMPHASIS ON PLANTING AND PROPAGATION TECHNIQUES (SEP 1980)
AUTHOR(S)→ KNIGHT,D.B.; KNUTSON,P.L.; PULLEN,E.J.
KEYWORDS→ BIBLIOGRAPHIES;VEGETATION

MR 83-4 <REEVALUATION OF VEGETATIONAL CHARACTERISTICS AT THE CERC FIELD RESEARCH FACILITY, DUCK, NORTH CAROLINA (MAR 1983)
AUTHOR(S)→ HARRIS,R.L.; LEVY,G.F.; PERRY,J.E.
KEYWORDS→ DUCK,NC;FIELD RESEARCH FACILITY-CERC; VEGETATION

MR 83-8 <POSTHURRICANE SURVEY OF EXPERIMENTAL DUNES ON PADRE ISLAND, TEXAS (MAR 1983)
AUTHOR(S)→ COTTER,P.C.; DAHL,B.E.; DRBAL,D.D.; WESTER,D.B.
KEYWORDS→ DUNES;HURRICANES;HURRICANES;PADRE ISLAND,TX;VEGETATION

R 78-2 <DESIGNING FOR BANK EROSION CONTROL WITH VEGETATION (FEB 1978)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ EROSION;VEGETATION

R 78-12 <PLANTING GUIDELINES FOR DUNE CREATION AND STABILIZATION (NOV 1978)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ DUNES;FENCES,SAND;VEGETATION

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AUTHOR(S)→ WOODHOUSE,W.W.,JR.
KEYWORDS→ DUNES;FENCES,SAND;VEGETATION

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CONTINENTAL UNITED STATES (MAY 1979)
AUTHOR(S)→ WOODHOUSE,W.W.,JR.
KEYWORDS→ MARSHES;VEGETATION

SR 9 <SHORE STABILIZATION WITH SALT MARSH VEGETATION (JAN 1983)
AUTHOR(S)→ KNUTSON,P.L.; WOODHOUSE,W.W.,JR.
KEYWORDS→ MARSHES;VEGETATION

TM 22 <DUNE STABILIZATION WITH VEGETATION ON THE OUTER BANKS OF NORTH CAROLINA (AUG 1967)
AUTHOR(S)→ HANES,R.E.; WOODHOUSE,W.W.,JR.
KEYWORDS→ CAPE HATTERAS,NC;DUNES;TRANSPLANTING; VEGETATION

TM 46 <PROPAGATION OF SPARTINA ALTERNIFLORA FOR SUBSTRATA STABILIZATION AND SALT MARSH DEVELOPMENT (AUG 1974)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.; WOODHOUSE,W.W.,JR.
KEYWORDS→ TRANSPLANTING;VEGETATION

TM 52 <SALT MARSH ESTABLISHMENT AND DEVELOPMENT (JUN 1975)
AUTHOR(S)→ GARBISCH,E.W.,JR.; MCCALLUM,R.J.; WOLLER,P.B.
KEYWORDS→ CHESAPEAKE BAY;DREDGING;MARSHES; VEGETATION

TP 76-7 <ANIMAL COLONIZATION OF MAN-INITIATED SALT MARSHES ON DREDGE SPOIL (JUN 1976)
AUTHOR(S)→ CAMMEN,L.M.; COPELAND,B.J.; SENECA,E.D.
KEYWORDS→ DREDGING;DRUM INLET,NC;EROSION;FAUNA; MARSHES;SNOWS CUT,NC;VEGETATION

TP 76-13 <VEGETATION ESTABLISHMENT AND SHORELINE STABILIZATION: GALVESTON BAY, TEXAS (AUG 1976)
AUTHOR(S)→ DODD,J.D.; WEBB,J.W.
KEYWORDS→ EAST BAY,TX;TRANSPLANTING;VEGETATION

TP 80-5 <EXPERIMENTAL DUNE RESTORATION AND STABILIZATION, NAUSET BEACH, CAPE COD, MASSACHUSETTS (AUG 1980)
AUTHOR(S)→ KNUTSON,P.L.
KEYWORDS→ CAPE COD,MA;DUNES;FENCES,SAND;NAUSET BEACH,MA;VEGETATION

TR 76-2 <PROPAGATION AND USE OF SPARTINA ALTERNIFLORA FOR SHORELINE EROSION ABATEMENT (AUG 1976)
AUTHOR(S)→ BROOME,S.W.; SENECA,E.D.; WOODHOUSE,W.W.,JR.
KEYWORDS→ BOGUE SOUND,NC;TRANSPLANTING;VEGETATION

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R 6-73 <DESIGN CONSIDERATIONS FOR A 3-D LASER DOPPLER VELOCIMETER FOR STUDYING GRAVITY WAVES IN SHALLOW WATER(FEB 1973)

AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ INSTRUMENTATION;VELOCITY MEASUREMENTS

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R 4-66 <A TRACTOR-MOUNTED SUSPENDED SAND SAMPLER (JUN 1966)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ INSTRUMENTATION;NAGS HEAD,NC;SAND SAMPLER;SEDIMENT TRANSPORT;VENTNOR,NJ

R 14-73 <LONGSHORE TRANSPORT OF SUSPENDED SEDIMENT (JUL 1973)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ NAGS HEAD,NC;SEDIMENT TRANSPORT;VENTNOR,NJ

TP 77-5 <SUSPENDED SEDIMENT IN THE LITTORAL ZONE AT VENTNOR, NEW JERSEY, AND NAGS HEAD, NORTH CAROLINA (MAY 1977)
AUTHOR(S)→ FAIRCHILD,J.C.
KEYWORDS→ NAGS HEAD,NC;SEDIMENT TRANSPORT;VENTNOR,NJ

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TM 33 <HEAVY MINERALS IN BEACH AND STREAM SEDIMENTS AS INDICATORS OF SHORE PROCESSES BETWEEN MONTEREY AND LOS ANGELES, CALIFORNIA (NOV 1970)
AUTHOR(S)→ JUDGE,C.W.
KEYWORDS→ HEAVY MINERALS;POINT CONCEPTION,CA;SEDIMENT TRANSPORT;VENTURA,CA

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MP 6-64 <BEACH CHANGES AT VIRGINIA BEACH, VIRGINIA (NOV 1964)
AUTHOR(S)→ HARRISON,W.; WAGNER,K.A.
KEYWORDS→ PROFILES;SHORE PROCESSES;VIRGINIA BEACH,VA

MR 77-12 <BEACH EROSION AND ACCRETION AT VIRGINIA BEACH, VIRGINIA AND VICINITY (DEC 1977)
AUTHOR(S)→ GOLDSMITH,V.; STURM,S.C.; THOMAS,G.R.
KEYWORDS→ PROFILES;VIRGINIA BEACH,VA

TM 5 <NEARSHORE TIDAL AND NONTIDAL CURRENTS, VIRGINIA BEACH, VIRGINIA (APR 1964)
AUTHOR(S)→ BREHMER,M.L.; HARRISON,W.; STONE,R.B.
KEYWORDS→ CURRENT METERS;CURRENTS;DIFFUSION;VIRGINIA BEACH,VA

TM 6 <DEVELOPMENT OF A METHOD FOR NUMERICAL CALCULATION OF WAVE REFRACTION (OCT 1964)
AUTHOR(S)→ HARRISON,W.; WILSON,W.S.
KEYWORDS→ HINDCASTING;REFRACTION,WAVE;VIRGINIA BEACH,VA

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AUTHOR(S)→ AHRENS,J.P.; GROSSKOPF,W.G.;
SEELIG,W.N.
KEYWORDS→ WAVE CHARACTERISTICS;WAVE PREDICTION

R 3-68 <BREAKER TYPE CLASSIFICATION ON THREE LABORATORY BEACHES (JUN 1968)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ WAVE CHARACTERISTICS

R 4-70 <BREAKER TRAVEL AND CHOICE OF DESIGN WAVE HEIGHT (MAY 1970)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ BREAKWATERS;RUNUP,WAVE;WAVE CHARACTERISTICS

R 4-71 <WAVES GENERATED BY A PISTON-TYPE WAVEMAKER (SEP 1971)
AUTHOR(S)→ MADSEN,O.S.
KEYWORDS→ MATHEMATICAL MODELS;PISTON-TYPE WAVE GENERATOR;WAVE CHARACTERISTICS

R 5-72 <FINITE-AMPLITUDE SHALLOW-WATER WAVES OF PERIODICALLY RECURRING FORM (SEP 1972)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ WAVE CHARACTERISTICS

R 2-73 <CHARACTERISTICS OF WAVE RECORDS IN THE COASTAL ZONE (OCT 1973)
AUTHOR(S)→ HARRIS,D.L.
KEYWORDS→ WAVE CHARACTERISTICS

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AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ WAVE CHARACTERISTICS

R 4-73 <WAVE BREAKING IN SHALLOW WATER (MAR 1973)
AUTHOR(S)→ GALVIN,C.J.,JR.
KEYWORDS→ WAVE CHARACTERISTICS

R 8-73 <MAXIMUM BREAKER HEIGHT FOR DESIGN (JUL 1973)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ WAVE CHARACTERISTICS

R 6-74 <FINITE SPECTRUM ANALYSES OF WAVE RECORDS (SEP 1974)
AUTHOR(S)→ HARRIS,D.L.
KEYWORDS→ ANALYSIS,SPECTRAL;WAVE CHARACTERISTICS

R 7-74 <RESULTS FROM THE CERC WAVE MEASUREMENT PROGRAM (SEP 1974)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ANALYSIS,SPECTRAL;WAVE CHARACTERISTICS

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AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ GAUSSIAN DISTRIBUTION;WAVE CHARACTERISTICS;WAVE CLIMATOLOGY

R 81-10 <STABILITY OF RUBBLE MOUND BREAKWATERS (NOV 1981)
AUTHOR(S)→ WALTON,T.L.,JR.; WEGGEL,J.R.
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AUTHOR(S)→ CAMFIELD,F.E.
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R 82-5 <BEDLOAD AND WAVE THRUST COMPUTATIONS OF ALONGSHORE SAND TRANSPORT (AUG 1982)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ MATHEMATICAL MODELS;SEDIMENT TRANSPORT;WAVE CHARACTERISTICS

R 83-2 <WIND-WAVE GROWTH WITH HIGH FRICTION (MAR 1983)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ WAVE CHARACTERISTICS;WIND

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AUTHOR(S)→ DEAN,R.G.
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AUTHOR(S)→ GALVIN,C.J.,JR.
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AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ WAVE CHARACTERISTICS

TP 80-2 <ENERGY SPECTRA IN SHALLOW U.S. COASTAL WATERS (FEB 1980)
AUTHOR(S)→ THOMPSON,E.F.
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AUTHOR(S)→ ECKERT,J.W.; GILES,M.L.
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AUTHOR(S)→ SEELIG,W.N.
KEYWORDS→ IRREGULAR WAVES;WAVE CLIMATOLOGY

CETA 80-5 <INTERPRETATION OF WAVE ENERGY SPECTRA (JUL 1980)
AUTHOR(S)→ THOMPSON,E.F.
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AUTHOR(S)→ SCHNEIDER,C.
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AUTHOR(S)→ GROSSKOPF,W.G.; VINCENT,C.L.
KEYWORDS→ WAVE CHARACTERISTICS;WAVE CLIMATOLOGY

CETA 83-1 <CALCULATION OF WAVE SHOALING WITH DISSIPATION OVER NEARSHORE SANDS (MAR 1983)
AUTHOR(S)→ HALLERMEIER,R.J.
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AUTHOR(S)→ CHESNUTT,C.B.; STAFFORD,R.P.
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AUTHOR(S)→ DARLING,J.M.
KEYWORDS→ WAVE CLIMATOLOGY

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AUTHOR(S)→ HARRIS,D.L.
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AUTHOR(S)→ HARRIS,D.L.
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KEYWORDS→ WAVE CLIMATOLOGY

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AUTHOR(S)→ GALVIN,C.J.,JR.; SCHWEPPE,C.R.
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TP 82-1 <EMPIRICAL GUIDELINES FOR THE USE OF IRREGULAR WAVE MODEL TO ESTIMATE NEARSHORE WAVE HEIGHT (JUL 1982)
AUTHOR(S)→ MATTIE,M.G.
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AUTHOR(S)→ LE MEHAUTE,B.; WANG,J.D.
KEYWORDS→ WAVE CLIMATOLOGY;WAVE TRANSFORMATION

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AUTHOR(S)→ THOMPSON,E.F.
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KEYWORDS→ ANALYSIS,SPECTRAL;WAVE CLIMATOLOGY; WAVE ENERGY

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AUTHOR(S)→ HALLERMEIER,R.J.; RAY,R.E.
KEYWORDS→ PILES;RUNUP,WAVE;WAVE FORCES;WAVE TRANSFORMATION

WAVE GAGES*

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WAVE GROUPING

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AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ ANALYSIS,SPECTRAL;FAST FOURIER TRANSFORM;WAVE CLIMATOLOGY;WAVE GROUPING

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WAVE REFRACTION*

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KEYWORDS→ WAVE SETUP

WAVE SPECTRA*

*SEE WAVE CLIMATOLOGY

WAVE TANKS

MR 77-7 <LABORATORY EFFECTS IN BEACH STUDIES (JUN 1977)
AUTHOR(S)→ CHESNUTT,C.B.; STAFFORD,R.P.
KEYWORDS→ MOVABLE-BED MODELING;PROFILES;
REFLECTION,WAVE;WAVE CLIMATOLOGY;WAVE TANKS

TP 76-12 <WIND-GENERATED WAVES FOR LABORATORY STUDIES
(AUG 1976)
AUTHOR(S)→ HARRIS,D.L.
KEYWORDS→ WAVE CLIMATOLOGY;WAVE TANKS

WAVE TRANSFORMATION

CETA 82-1 <HAND-HELD CALCULATOR ALGORITHMS FOR COASTAL
ENGINEERING (JAN 1982)
AUTHOR(S)→ BIRKEMEIER,W.A.; WALTON,T.L.,JR.;
WEGGEL,J.R.
KEYWORDS→ WAVE CHARACTERISTICS;WAVE
TRANSFORMATION

CETA 82-4 <HAND-HELD CALCULATOR ALGORITHMS FOR COASTAL
ENGINEERING(SECOND SERIES) (NOV 1982)
AUTHOR(S)→ WALTON,T.L.,JR.
KEYWORDS→ MATHEMATICAL MODELS;WAVE
CHARACTERISTICS;WAVE TRANSFORMATION

CETA 82-7 <PREDICTION OF NEARSHORE WAVE TRANSFORMATION
(DEC 1982)
AUTHOR(S)→ HUBERTZ,J.M.
KEYWORDS→ MATHEMATICAL MODELS;SHOALING;WAVE
TRANSFORMATION

R 77-4 <NONLINEAR FLOW OF WAVE CRESTS PAST A THIN PILE
(APR 1977)
AUTHOR(S)→ HALLERMEIER,R.J.
KEYWORDS→ PILES;WAVE TRANSFORMATION

TP 78-1 <WAVE TRANSFORMATION AT ISOLATED VERTICAL PILES IN SHALLOW WATER (MAR 1978)
AUTHOR(S)→ HALLERMEIER,R.J.; RAY,R.E.
KEYWORDS→ PILES;RUNUP,WAVE;WAVE FORCES;WAVE TRANSFORMATION

TR 80-2 <TRANSFORMATION OF MONOCHROMATIC WAVES FROM DEEP TO SHALLOW WATER (AUG 1980)
AUTHOR(S)→ LE MEHAUTE,B.; WANG,J.D.
KEYWORDS→ WAVE CLIMATOLOGY;WAVE TRANSFORMATION

WAVE TRANSMISSION*

*SEE TRANSMISSION,WAVE

WEIBULL DISTRIBUTION FUNCTION

CETA 81-3 <A MODEL FOR THE DISTRIBUTION FUNCTION FOR SIGNIFICANT WAVE HEIGHT (JAN 1981)
AUTHOR(S)→ THOMPSON,E.F.
KEYWORDS→ NAGS HEAD,NC;WAVE CLIMATOLOGY;WEIBULL DISTRIBUTION FUNCTION

WEIR JETTIES

R 79-14 <WEIR JETTIES - THEIR CONTINUING EVOLUTION (JAN 1980)
AUTHOR(S)→ PARKER,N.E.
KEYWORDS→ HARBORS;JETTIES;WEIR JETTIES

R 83-7 <THE DESIGN OF WEIR SAND BYPASSING SYSTEMS (MAY 1983)
AUTHOR(S)→ WEGGEL,J.R.
KEYWORDS→ SAND BYPASSING;WEIR JETTIES

SR-8 <WEIR SAND-BYPASSING SYSTEMS (APR 1981)
AUTHOR(S)→ WEGGE '.R.
KEYWORDS→ JETTIES;SAND BYPASSING;WEIR JETTIES

WESTHAMPTON BEACH,NY

MP 3-69 <PIPE PROFILE DATA AND WAVE OBSERVATIONS FROM THE CERC BEACH EVALUATION PROGRAM, JANUARY-MARCH 1968 (SEP 1969)
AUTHOR(S)→ GALVIN,C.J.,JR.; URBAN,H.D.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LONG ISLAND,NY;LUDLAM ISLAND,NJ; PROFILES;SHORE PROCESSES;WESTHAMPTON BEACH,NY

MR 79-5 <BEACH CHANGES AT WESTHAMPTON BEACH, NEW YORK, 1962-73 (AUG 1979)
AUTHOR(S)→ DEWALL,A.E.
KEYWORDS→ BEACH EVALUATION PROGRAM-CERC:EROSION; GROINS;PROFILES;WESTHAMPTON BEACH,NY

TP 77-1 <BEACH CHANGES CAUSED BY THE ATLANTIC COAST STORM OF 17 DECEMBER 1970 (JAN 1977)
AUTHOR(S)→ DEWALL,A.E.; GALVIN,C.J.,JR.; PRITCHETT,P.C.
KEYWORDS→ ATLANTIC CITY,NJ;BEACH EVALUATION PROGRAM-CERC;CAPE COD,MA;EROSION;JONES BEACH,NY;LONG BEACH ISLAND,NJ;LUDLAM ISLAND,NJ;MISQUAMICUT,RI;PROFILES;TIDES; WESTHAMPTON BEACH,NY

WIND

CETA 77-6 <A METHOD FOR ESTIMATING WIND-WAVE GROWTH AND DECAY IN SHALLOW WATER WITH HIGH VALUES OF BOTTOM FRICTION (OCT 1977)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ ATTENUATION,WAVE;VEGETATION;WAVE CHARACTERISTICS;WIND

R 78-1 <VISUAL SURF OBSERVATIONS/MARINELAND EXPERIMENT (FEB 1978)
AUTHOR(S)→ SCHNEIDER,C.
KEYWORDS→ CURRENTS;LEO;MARINELAND,FL;WIND

R 83-2 <WIND-WAVE GROWTH WITH HIGH FRICTION (MAR 1983)
AUTHOR(S)→ CAMFIELD,F.E.
KEYWORDS→ WAVE CHARACTERISTICS;WIND

TM 1 <SAND MOVEMENT BY WIND(JAN 1964)
AUTHOR(S)→ BELLY,P.Y.
KEYWORDS→ SEDIMENT TRANSPORT;THRESHOLD VELOCITY; WIND;WIND TUNNEL

TM 7 <INTERACTIONS OF THE BEACH-OCEAN-ATMOSPHERE SYSTEM AT VIRGINIA BEACH, VA. (DEC 1964)
AUTHOR(S)→ HARRISON,W.; KRUMBEIN,W.C.
KEYWORDS→ CURRENTS;SHORE PROCESSES;VIRGINIA BEACH,VA;WIND

WIND TUNNEL

TM 1 <SAND MOVEMENT BY WIND(JAN 1964)
AUTHOR(S)→ BELLY,P.Y.
KEYWORDS→ SEDIMENT TRANSPORT;THRESHOLD VELOCITY; WIND;WIND TUNNEL

WINDBLOWN SAND

MP 2-64 <CALCULATION PROCEDURE FOR SAND TRANSPORT BY WIND ON NATURAL BEACHES (APR 1964)
AUTHOR(S)→ KADIB,A.
KEYWORDS→ SALMON BEACH,CA;WINDBLOWN SAND

WRIGHTSVILLE,NC

MR 81-6 <ANALYSIS OF COASTAL SEDIMENT TRANSPORT

APPENDIX C

KEYWORDS

KEYWORDS

ABSECON ISLAND,NJ
ACOUSTIC FLOWMETER
ADDED MASS
AERIAL PHOTOGRAPHY
ALASKA
AMPHIBIOUS VEHICLES
ANAHEIM BAY,CA
ANALYSIS,SPECTRAL
ARMOR UNITS
ARSLOE
ARTIFICIAL ISLANDS
ARTIFICIAL REEFS
ARTIFICIAL SEAWEED
ASSATEAGUE ISLAND,MD
ATLANTIC CITY,NJ
ATLANTIC COAST
ATTENUATION,WAVE
AUSTRALIA

BARRIER ISLANDS
BARRIERS*
BARS*
BEACH CHARACTERISTICS*
BEACH EROSION BOARD
BEACH EVALUATION PROGRAM-CERC
BEACH GRASSES*
BEACH NOURISHMENT
BED FORMS
BEDLOAD
BENEDICT,MD
BENTHOS*
BERRIEN COUNTY,MI
BIBLIOGRAPHIES
BIOLOGICAL COMPONENTS
BITTER PANICUM*
BLUFFS
BOCA RATON,FL
BODEGA HEAD,CA
BOGUE BANKS,NC
BOGUE SOUND,NC
BOLINAS LAGOON,CA
BOUNDARY LAYER FLOW
BREAKING WAVES*
BREAKWATERS
BRIGANTINE,NJ
BROWARD COUNTY,FL
BROWN CEDAR CUT,TX
BRUNSWICK HARBOR,GA
BUDGET,SEDIMENT
BULK DENSITY
BULKHEADS

CAPE CANAVERAL,FL
CAPE COD,MA
CAPE FEAR,NC
CAPE HATTERAS,NC
CAPE KENNEDY,FL
CAPE MAY,NJ
CAPES
CAROLINA BEACH,NC
CARTERET COUNTY,NC
CATHODIC PROTECTION
CERC
CHANNEL ISLANDS HARBOR,CA
CHESAPEAKE BAY
CHESAPEAKE LIGHT STATION
COASTAL ENGINEERING
COASTAL STRUCTURES
COMPUTER PROGRAMS*
CONCRETE BLOCKS
CONCRETE JACKETS
CONSTRUCTION MATERIALS
CONTINENTAL SHELF
CORING DEVICES
CORPUS CHRISTI PASS,TX
COST ESTIMATES
CRENULATE-SHAPED BAYS
CURRENT METERS
CURRENTS
CYLINDERS

DAMPING
DARE COUNTY,NC
DATA COLLECTION
DELMARVA PENINSULA
DEPOE BAY,OR
DIFFRACTION,WAVE
DIFFUSION
DIKES
DILLINGHAM HARBOR,AK
DOCKS
DOLOS
DRAG COEFFICIENTS
DRAG FORCES
DRAKES BAY,CA
DREDGING
DRUM INLET,NC
DUCK,NC
DUNE BUILDING*
DUNE STABILIZATION*
DUNES
DYE TRACERS

*** References for which this keyword is used are listed under another keyword (see Appendix B, Keyword Index).**

KEYWORDS

EARTHQUAKES
EAST BAY,TX
ECOLOGY
EROSION
ERTS
ESSEX ESTUARY,MA

FALL VELOCITY
FAST FOURIER TRANSFORM
FAUNA
FENCES,SAND
FERTILIZATION*
FIELD RESEARCH FACILITY-CERC
FILTERS
FISH
FLASH FLOODS
FLOATING BREAKWATERS
FLUID FLOW
FORT FISHER,NC
FREEPORT HARBOR,TX
FRICTION FACTOR
FRIDAY HARBOR,WA

GAGES,WAVE
GALVESTON BAY,TX
GALVESTON COUNTY,TX
GALVESTON ISLAND,TX
GAUSSIAN DISTRIBUTION
GEOMORPHOLOGY
GEOTECHNICAL ENGINEERING
GLOSSARIES
GOBI BLOCKS
GOLDEN BEACH,FL
GREAT LAKES
GROINS
GULF COAST
GULF OF CARPENTARIA
GULF OF MEXICO

HALLANDALE,FL
HARBORS
HEAVY MINERALS
HINDCASTING
HISTORIES
HOLDEN BEACH,NC
HOLLAND HARBOR,MI
HOLLYWOOD,FL
HUMBOLDT BAY,CA
HURRICANES
HYDRAULIC MODELS
HYDROGRAPHIC SURVEYS*
HYPERION BEACH,CA

ICONS
IMPACT FORCES
IMPERIAL BEACH,CA
INLETS
INNER CONTINENTAL SHELF
INSTRUMENTATION
INTERLOCKING BLOCKS
INVERTEBRATES
IRREGULAR WAVES
ISLAND BEACH,NJ

JETTIES
JONES BEACH,NY
JUPITER,FL

KNIK ARM,AK

LABORATORIES
LAKE ERIE
LAKE LEVELS
LAKE MICHIGAN
LAKE OKEECHOBEE,FL
LAKESHORE PROCESSES
LEO
LEXINGTON HARBOR,MI
LIFT FORCES
LITTORAL BARRIERS
LONG BEACH ISLAND,NJ
LONG ISLAND SOUND
LONG ISLAND,NY
LONGSHORE BARS
LONGSHORE ENERGY FLUX
LORAIN,OH
LUDLAM BEACH,NJ
LUDLAM ISLAND,NJ

MACROINVERTEBRATES
MARINAS
MARINE ENGINEERING
MARINELAND,FL
MARKOV PROCESS
MARSH PLANTS*
MARSHES
MASONBORO INLET,NC

KEYWORDS

MASSACHUSETTS BAY
MATHEMATICAL MODELS
METEOROLOGICAL DATA
MIAMI,FL
MILL COVE,FL
MINERAL SOLIDS
MISQUAMICUT,RI
MISSION BAY,CA
MISSION BEACH,CA
MONITORING GUIDELINES
MONTEREY BAY,CA
MOORING FORCES
MOVABLE-BED MODELING
MULTISPECTRAL SCANNER

NAGS HEAD,NC
NATURAL TRACERS
NAUSET BEACH,MA
NAVIGATION CHANNELS
NETARTS BAY,OR
NEW BERN,NC
NEW JERSEY
NEW RIVER INLET,NC
NEW YORK BIGHT
NEWPORT,CA
NORTH INLET,SC
NORTH PADRE ISLAND,TX
NUMERICAL MODELS*

OAHE RESERVOIR,SD
OFFSHORE PLATFORMS
OFFSHORE STRUCTURES*
ONSLOW COUNTY,NC
OOLITIC ARAGONITE
OUTER BANKS,NC
OVERTOPPING,WAVE

PACIFIC COAST
PACKERY CHANNEL,TX
PADRE ISLAND,TX
PALM BEACH,FL
PANAMA CITY BEACH,FL
PARKER ESTUARY,MA
PATENTS
PATUXENT RIVER,MD
PEAT DEPOSITS
PENTWATER HARBOR,MI
PERMEABILITY
PETROLEUM STORAGE SYSTEM
PHI GRADE SCALE
PHOTOGRAPHY
PHYSICAL MODELS*
PHYTOPLANKTON
PICTORIAL HISTORY
PIERS
PILES
PIPELINES
PISMO CLAMS
PISTON-TYPE WAVE GENERATOR
PLUM ISLAND,MA
POINT ARGUELLO,CA
POINT CONCEPTION,CA
POINT REYES,CA
PORT MANSFIELD,TX
PORT STRUCTURES
PRESQUE ISLE,PA
PRESSURE GAGES*
PRESSURE TREATED TIMBER
PRESTON PROBE
PROFILES
PROTECTIVE COATINGS
PT. MUGU,CA

QUADRIPODS
QUARRYSTONE
QUARTZ SAND

RADAR
RADIOCARBON DATES
RADIOISOTOPES*
RECOLONIZATION RATES
REFLECTION,WAVE
REFRACTION,WAVE
REMOTE SENSING
REVETMENTS
RINCON ISLAND,CA
RIPPLES
RIPRAP
RIST
ROCKAWAY BEACH,NY
ROLLOVER PASS,TX
RUDEE INLET,VA
RUNUP,WAVE
RUSSIAN RIVER,CA

SABINE PASS,TX
SALMON BEACH,CA
SALT MARSHES*
SAMPLING ANALYSIS
SAN FRANCISCO BAY,CA

KEYWORDS

SAN LUIS PASS,TX
SAN PABLO BAY,CA
SAND BAGS
SAND BYPASSING
SAND FENCES*
SAND INVENTORY*
SAND MINING
SAND RIPPLES
SAND SAMPLER
SAND TRACERS*
SANTA CRUZ HARBOR,CA
SATELLITES
SAVANNAH,GA
SCALE EFFECTS
SEA BREEZE
SEA ISLE CITY,NJ
SEA LEVEL
SEA SLED
SEASAT
SEASIDE PARK,CT
SEAWALLS
SEAWEED
SEDIMENT BUDGET*
SEDIMENT CHARACTERISTICS
SEDIMENT TRACER
SEDIMENT TRANSPORT
SEDIMENTATION TANK
SEICHING
SEISMIC REFLECTION
SEISMIC SEA WAVES
SETTLING VELOCITIES
SHARK RIVER,NJ
SHEAR STRESSES
SHERWOOD ISLAND STATE PARK,CT
SHOALING
SHORE PROCESSES
SILETZ BAY,OR
SILVER STRAND,CA
SNOWS CUT,NC
SOUTH LAKE WORTH INLET,FL
SPARTINA ALTERNIFLORA*
SPECTRAL ANALYSIS*
SPOIL DISPOSAL*
STILLING WELL
STORM SURGE
STORMS
STREAM FUNCTION WAVE THEORY
SUBMERGENCE
SURGE II COMPUTER PROGRAM
SURVEYING
SYNTHETIC APERTURE RADAR(SAR)

TETRAPODS
THERMISTOR
THRESHOLD VELOCITY
TIDAL DATUMS
TIDAL INLETS
TIDE GATES
TIDES
TIRES
TOPSAIL ISLAND,NC
TORREY PINES BEACH,CA
TRANSMISSION,WAVE
TRANSPLANTING
TRIBARS
TSUNAMIS

VEGETATION
VELOCITY MEASUREMENTS
VENTNOR,NJ
VENTURA,CA
VIRGINIA BEACH,VA

WASHOVER DEPOSITS
WATER TUNNEL
WAVE ANALYSIS*
WAVE ATTENUATION*
WAVE CHARACTERISTICS
WAVE CLIMATOLOGY
WAVE ENERGY
WAVE FORCES
WAVE GAGES*
WAVE GROUPING
WAVE OVERTOPPING*
WAVE PREDICTION
WAVE REFLECTION*
WAVE REFRACTION*
WAVE RUNUP*
WAVE SETUP
WAVE SPECTRA*
WAVE TANKS
WAVE TRANSFORMATION
WAVE TRANSMISSION*
WEIBULL DISTRIBUTION FUNCTION
WEIR JETTIES
WESTHAMPTON BEACH,NY
WIND
WIND TUNNEL
WINDBLOWN SAND
WRIGHTSVILLE,NC